

InnovAction

"Technology meets Creativity"



500W 1000W FM Transmitter

Cost-Effective, High Performances & Fully Customizable



User Manual (v.2)

The information contained in this manual refers to InnovAction 2G Transmitters 500W 1000W

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Section *One* ①

INTRODUCTION & GENERAL INFORMATION

Preface

Congratulations on your purchase of our FM transmitter.

Our goal is to bring you the most accurately crafted equipment to exceed current specifications and world-class quality standards. Our products are designed to withstand severe environment conditions.

Your new **InnovAction** transmitter is manufactured using the most advanced production processes available today and the highest quality materials to ensure years of trouble-free service.

BEFORE USING THE AMPLIFIER, PLEASE READ MANUAL CAREFULLY. PARTICULAR ATTENTION MUST BE PAID TO GROUND CONNECTIONS AND OTHER MAINS SECURITY RULES.

Thank you

About InnovAction

InnovAction is dedicated to developing and refining the newest technologies which can satisfy the ever-increasing needs of the FM Broadcast industry.

Our innovative engineering staff has designed our new FM Amplifier after a ten-year experience in the research and development of FM equipment.

We are located in Southern Italy where an exceptionally mild climate and a long-established culinary tradition offer a high quality of life. We are at the approximate latitude of Los Angeles, CA. but right in the middle of the Mediterranean Sea.

The high level of technology in the Broadcast industry has placed Italy among the most advanced countries in the world and is no second to Italy's claim to fame for fashion or food. No coincidence that our offices are found in Calabria, the historical region of "Magna Grecia", where Pythagora founded his philosophical school of mathematics. Do you recall Pythagora, father of modern mathematics and his theorem: $a^2(\text{cathetus}) + b^2(\text{cathetus}) = c^2(\text{Hypotenuse})$? **Or his most famous line: "all things are numbers" ... Nothing is casual!**

Ancient traditions, crystal-clear sea waters and lush tree-covered hills here meet with the sophisticated technologies of the Arcavacata University, located 50 miles from **InnovAction** premises. This privileged position allows us to choose fresh resources from recently qualified engineers with an eye for state-of-the art.

Equipment developed and manufactured by **InnovAction** has undergone extensive computer simulation, followed a rigorous R&D method and often results from cooperation with Research Institutes or Universities.

InnovAction is committed to meet your FM broadcast requirements by providing the most advanced, reliable and cost-effective FM equipment available in the market today

Welcome INTO an idea!

About This Manual

A step-by step guide to simple installation and setup of Jazz Transmitter, the manual contains the following sections:

1. **Introduction & General Information:** current section
2. **General Description:** key features, technical specifications and mechanical layouts
3. **Installation & Use:** how to install, set up and test Transmitter
4. **Visual Mode:** how to read main parameters and settings (consultation only)
5. **Program Mode:** how to program main parameters and settings
6. **Special Program mode:** how to program the special one-off operation of firmware loading
7. **Service & Maintenance:** repair and maintenance, outlines, component location, parts lists and other technical information

Important Note On Dangerous Voltage

Hazardous Voltage

**WARNING:**

Voltage within equipment is high enough to endanger life!

External or internal covers are NOT to be removed, except by authorized personnel

Important Note - Serial Number

Serial Number can be read directly on front panel display. Press the encoder knob and turn it to select the slide showing “ABOUT”. This section contains serial number, firmware version and other general and useful information.



Some product versions might show serial number on rear panel label

Disclaimer

If you find any inaccuracies, please kindly inform us

InnovAction is not liable for any typing or technical errors and it reserves the right to make changes to product and/or manuals without prior notice

Warranty

InnovAction product is guaranteed against defects in materials and workmanship for a period of TWO YEARS from date of shipment. The standard warranty may be extended beyond the two-year period. A record of warranty extensions is listed on sales orders of each product purchased. Standard warranty conditions apply to extended warranty period.

During warranty **InnovAction Srl** will repair or replace product proved to be faulty prior to authorization. The warranty validation only applies if product is returned to **InnovAction Srl** after release of Return of Merchandise Authorization and provided that maintenance procedures are followed as listed in the manual. Warranty does not cover repair resulting from product carelessness, incorrect or improper use.
NO OTHER WARRANTY APPLY

**INNOVATION IS NOT LIABLE FOR DAMAGES RESULTING FROM PRODUCT MISUSE
INNOVATION DOES NOT GUARANTEE ERROR-FREE EQUIPMENT, UNINTERRUPTED
OPERATION, FIRMWARE OR FIRMWARE BUGS.**

If your equipment needs repair call **InnovAction Srl** promptly and ask for customer service department. It is important to contact **InnovAction** immediately since many problems may be quickly solved over the phone or by e-mail. Please have your Serial Number ready before you contact **InnovAction** and clearly explain the nature of your problem. Once we acknowledge your equipment requires service we will send you an electronic form to fill in with your name, address, phone number, e-mail and an accurate description of problem or failure. We will issue an **RMA** number.

Send unit with prepaid shipment to indicated maintenance lab and place equipment in the original box or a suitable container to protect product from damage. **InnovAction Srl** will not be held responsible for damage incurred during shipping. Please ensure RMA number is clearly marked onto shipping container. Our standard terms are to fix or repair equipment within **five working days**. If equipment requires parts ordering or more than five working days, **InnovAction Srl** service technician will contact you. We also provide service for equipment if warranty has expired. Follow same instructions described above, but tick in the

“not in warranty” box. Warranty is valid on condition that proper maintenance procedures have been complied with, as listed in the manual. Damage caused by product misuse is NOT covered by warranty.

Other General Information

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Firmware Version: 1.68D
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In Case of Emergency

Basic CPR (Cardiopulmonary resuscitation) technique

For adults



1: Call your local emergency number



2: Tilt head, lift chin, check breathing



3: Pinch nose shut and give two breaths



4: Check pulse



5: If there is no pulse, position hands in the center of chest



6: Place one hand over other and push down two inches on the chest 15 times

7: If there is no pulse, continue with two breaths and 15 pumps for one minute and recheck pulse – if no pulse – continue until arrives

Symbols

This section contains a list of most commonly used symbols.

It is important to become familiar with symbols to understand the information contained in the manual. Additionally, some graphical signs are used to draw further or extra attention to specific operations.

This manual is divided into two main sections: use of equipment and maintenance. The two sections are separated by one blue page. The operator who has experience in using the equipment must not try to perform any maintenance operation.

Any incorrect operation may cause damage to electronics and be also potentially dangerous for operator’s safety.



This symbol means: “Notice”



This symbol means: “Read carefully before operating”



This symbol means: “Please contact Manufacturer”



This symbol means: “Information relevant to the Software”



This symbol means: “Maintenance Procedure”



This symbol means: “DANGER!”



This symbol means: “Danger - High Voltage”



This symbol means: “European Union Accepted”



This symbol means: WEEE (Waste of electric and electronic equipment) referred to separated setting, collection, recycling and recovery targets for all types of electrical and/or electronic goods.



Section *Two* ②

GENERAL DESCRIPTION

Key Features

Equipment is designed using the latest technologies and techniques available for Hardware and Software and includes the following key features.

- ❑ State of the art performance at reasonable cost
- ❑ μ P controlled
- ❑ Extremely low distortion: **THD, IMD & TIM** (Transient Intermodulation Distortion) specified
- ❑ Very quiet operation (S/N)
- ❑ Highest stereo performance: separation 80 Hz-15 kHz, **typ. 70 dB** (30-80Hz typ. 60dB)
- ❑ L, R (balanced & unbalanced), RDS / SCA, AUX, MPX, Digital inputs AES-EBU XLR & Optical (Optional), External Reference Oscillator input & output (Optional)
- ❑ Lin, 50, 75 μ s pre-emphasis
- ❑ Seven complete programs (frequency, sensitivity, power, etc. etc.) which can be stored and selected in local or remote mode, without retuning or re-adjustments. Ready for (6+1) systems
- ❑ Completely broadband: instantaneous BW > 20 MHz
- ❑ Easy to handle: self-explaining monitoring and setting of all important parameters
- ❑ Remote control for telemetry and DB25 and DB9 connectors available on rear panel
- ❑ Two independent RS485 ports on rear panel
- ❑ Modular construction specifically designed to minimize spare parts set
- ❑ Auxiliary functions as multi-frequency external synchronization (1;2; 2,5;5;10 MHz) on request
- ❑ RF amplifiers using the latest generation of semiconductors: **RF Power LD-MOSFET** both in driver and at output stages
- ❑ **Automatic Power Control (APC)** maintaining stable pre-set RF power @ 45°C ; 1.5:1 VSWR. Higher VSWR value causes power reduction
- ❑ Very fast acquisition latching indicators showing transient conditions

- ❑ For Jazz500:Nominal RF o/p level = 500W. Typical max power of 550W. Continuously adjustable power output from 10 to 500W
- ❑ For Jazz1000:Nominal RF o/p level = 1000W. Typical max power of 1050W. Continuously adjustable power output from 10 to 1000W
- ❑
- ❑ Built-in RF harmonics filter and true wattmeter
- ❑ High spectral purity: > -100 dBc spurious and >-75 dBc harmonics (type)
- ❑ Output provided: RF, RF monitor, 19 kHz to lock RDS, RS485, USB, remote alarm, and remote memory setting. Tele-measurement.
- ❑ AC mains (100-240V in full ranges); reliable PWS
- ❑ CCIR , FCC & ETS1 compilant
- ❑ All functions controlled by a knob encoder and a two-row, sixteen character LCD display. Intuitive parameters configuration
- ❑ External control of alarms, active memory, interlock, force to internal stereo, TX-on, TX-off, ack-on, ack-off, mains absence, power good, IPA, VPA, Modulation, Reflected PWR, Forward PWR through DB25 connector located on rear panel
- ❑ Seven memories (M1 to M7). All data such as frequency, audio sensitivity, RF power, etc. etc can be stored in any flash memory of the microprocessor and be recalled by internal/external command
- ❑ Feasible in 2U cabinet

Technical Specifications

RF FEATURES	
Power	500W for Jazz500; 1000W for Jazz1000adjustable from front panel.
RF Output impedance	50Ω unbalanced, VSWR less than 1.5:1
Frequency range	87.5 to 108 MHz, 7 channels (10kHz / step μ p selected) can be stored and recalled from panel, rear contacts, or via USB connection
Frequency control	Synthesizer μ processor controlled
Lock-in time	From starting to any programmed frequency : typically 4 secs
Off-lock attenuation	> 75 dBc (typical -80 dB)
Type of modulation	F3E / F8E direct FM at the carrier frequency
Modulation mode	Mono, Stereo, Multiplex, SCA, RDS, AUX (input selected by front panel)
Frequency deviation	± 75 kHz =100 %, ± 150 kHz capability
Reference	TCXO = 12.8 MHz
Constancy of freq. dev.	± 1 % over six months
Variation of freq.	≤ 1 kHz/year (internal TCXO)
Short term stability	± 1 ppm from -5 to +45 °C, Can be synchronized by 1-2-2.5-5-10MHz self select external clock (OPT 01)
Instantaneous BW	>20 MHz
RF harmonics	Exceeds EBU/CCIR/FCC requirements > -70dBc
RF spurious	Exceeds EBU/CCIR/FCC requirements < -100 dBc @ ± 1 MHz min. out of carrier (typical -110dB)
Pre-emphasis	Flat/50/75 μ s selectable via front panel
Pre-emphasis precision	Nominal 1% (typical 0.4%)
Stereo operation	CCIR 450/S2 "pilot tone system"

STEREO OPERATION	
1. Audio response	± 0.15 dB da 20 Hz to 15 kHz (+0/-2%)
2. Audio filter attenuation	> 55 dB @ 19 kHz, >45dB 19 to 100kHz
3. Common mode rejection	20 Hz to 15 kHz > 45 dB
4. Stereo Separation	30-80Hz >53dB (typ. 56), 80Hz-15kHz >60 dB (typ.70)
5. Crosstalk attenuation (M / S)	> 40 dB 30 Hz to 15 kHz (typ. 55dB / 100Hz to 8kHz)
6. Spurious products	> 53 kHz > 50 dB
7. 38 kHz suppression	> 70 dB (Typ -85dB)
8. Subcarrier frequency	38 kHz ± 2 Hz
9. Subcarrier generation	Internal crystal
10. Pilot frequency	19 kHz ± 1 Hz
11. Phase difference	19/38 kHz 0° ± 2 ° adjustable
12. THD+N on encoded channels	< 0.03 % 30 Hz TO 15 kHz (typ -74dB)
13. IMD	Measured with a 1 KHz and 1.3 KHz tones, 1:1ratio, at FM 75 kHz < 0.03 % . Typ. IMD D2 < -83 dB D3 < -88 dB
14. TIM (DIM30)	< 0.03 % (square/sinus) Typ. < -77 dB
15. Nominal pilot deviation	± 7 kHz; adjustable

MONO OPERATION	
Audio response	±0.15 dB 20 Hz to 15 kHz (+0/-2%)
THD+N on encoded channels	30 Hz to 15 kHz < 0.02% (typ. 0.03 %) typ. -74dB
IMD	Measured with a 1 KHz and 1.3 KHz tones; 1:1ratio at FM 75 kHz D2 < -75 dB D3 < -80 dB Typ. D2<-80dB D3< -85 dB
TIM (DIM30)	Measured with a 2.96 kHz square wave and a 14 kHz sine wave at 75 kHz FM < -70 dB Typ. < -77 dB

MPX OPERATION (External coder)	
Audio response	30Hz - 53kHz ± 0.1 dB
	53kHz - 100kHz ± 0.2 dB
THD+N on encoded channels	30 Hz to 15 kHz < 0.03% (typ. 0.02% , < -75dB)
IMD	Measured with a 1 KHz and 1.3 KHz tones; 1:1ratio at FM 75 kHz D2<-75 dB D3<-80 dB Typ. D2<-80dB D3< -85 dB
TIM (DIM30)	Measured with a 2.96 kHz square wave and a 14 kHz sine wave at 75 kHz FM < -70 dB Typ. < -75 dB

S/N RATIO (Typical Values)			
Type	Condition	Value (Peak CCIR)	Value (RMS detector)
Mono Ref. ± 75kHz	Weighted (CCIR 468/2)	85 dB/50 μs 80 dB/flat	89 dB/50 μs 83 dB/flat
	Unweighted 20 Hz - 23kHz		92 dB/50 μs 88 dB/flat
Built-in stereo encoder L & R Or external stereo	Weighted (CCIR 468/2)	75 dB/50 μs 69 dB/flat	79 dB/50 μs 72 dB/flat
	Unweighted 20 Hz ÷ 23kHz		86 dB/50 μs 80 dB/flat
AM synchronous AM=400 Hz FM=400 Hz ± 75 kHz Ref. = 100 % AM	Unweighted 20 Hz ÷ 23kHz	69 dB (detector $\frac{P^+ + P^-}{2}$)	
AM asynchronous FM = no modulation Ref. = 100 % AM	Weighted & unweighted	70 dB (detector $\frac{P^+ + P^-}{2}$)	

AUDIO INPUTS						
Function	Input level / Adjustment range	BW	Impedance	Mode	Conn.	
MPX	-6 to +10 dBm 0.5 dB step adjustable by software	0.15 dB 30 Hz+100kHz	~5 kΩ	Unbal.	BNC	
SCA	-6 to +10 dBm 0.5 dB step adjustable by software	0.15 dB 40kHz+100kHz	~3 kΩ	Unbal.	BNC	
RDS	-6 to +10 dBm 0.5 dB step adjustable by software		~3 kΩ	Data +--	BNC	
Aux	-6 to -10dBm 0.5 dB step adjustable by software	0.15 dB 40kHz+100kHz	~3 kΩ	Unbal	BNC	
L	-6 to +10 dBm ± 0.5 dBm 0.5 dB step adjustable by software)	0.1 dB 30Hz+15kHz	15 kΩ 600 Ω	Unbal. Bal.	XLR	
R	-6 to +10 dBm ± 0.5 dBm 0.5 dB step adjustable by software)	0.1 dB 30Hz-15kHz	15 kΩ 600 Ω	Unbal. Bal.	XLR	

MONITOR OUTPUTS	
RF connector for Jazz 500 2G	N female
RF connector for Jazz 500 2G-H	N female – 7/16” on request
Monitor RF output	-44dBc±2dB from 87.5 to 108 MHz
Pilot	BNC connector 19 kHz Squarewave, level 1 Vpp, impedance >5kΩ, unbalanced type

AUXILIARY CONNECTIONS	
USB	USB type B-female (Only for Factory USE)
RS485 Serial Interface #1	RJ45
RS485 Serial Interface #2	RJ45
Telemetry/Telecontrol Interface	DB25F
External clock 1-2-2.5-5-10 MHz	SMA female (Optional)
Telemetry/Telecontrol Interface	DB25F
Telemetry/Telecontrol Interface	DB25F

OPTIONS			CODE
External Clock	JZOP-01	For PLL synchronizing purpose. 1-2-2.5-5-10 MHz EXT Ref. Oscillator with self-selection of the incoming frequency	
Digital audio Input	JZOP-04	AES-EBU facilities XLR balanced (S/PDIF) & TOS-LINK supplied	
RDS	JZOP-05	RDS simple coder programmable via PC	SDZ00110
OIRT Version	JZOP-06	Different band of frequency	
FSK identification (FCC)Version	JZOP-07	LPFM frequency shift-key Morse code for station identification	
Only MONO Version	JZOP-08		
WEB telemetry TC-IP interface	JZOP-08	Ethernet	SDI02801

STANDARD COMPLIANCE	
Safety	EN 60215:1989/A1:1992/A2:1994 - EN 50385:2002
EMC	ETSI EN 301 489-1 V1.8.1 – ETSI EN 301 489-11 V1.3.1
Spectrum Optimization	ETSI EN 300 018-2 V1.2.1

FUSES	
Mains	1 External fuse F 2 T - 5x20 mm 16A
Internal Fuse	6x32 F 12 A

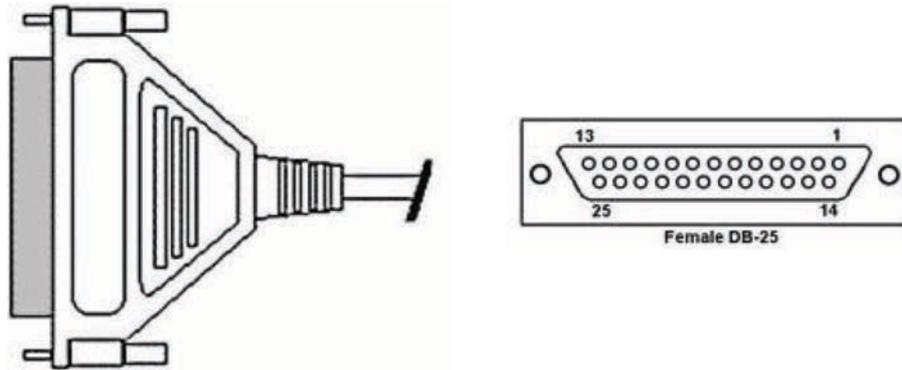
ENVIRONMENT	
Storage temperature	-20°C TO + 60 °C
Operating temperature	-10 °C TO + 50 °C
Guaranteed performance temperature	0 °C TO + 40 °C
Relative non-condensing humidity	95 % on condensing
Max operating altitude	3000 mt.
Max extraneous field strength	≤10 V/m; ≤ 4 A/m

SIZE & ELECTRICS	
Dimensions Jazz 500 2G	Standard 19" chassis /1 U rack
Dimensions Jazz 500 2G H	Standard 19" chassis /2 U rack
Cabinet Jazz 500 2G	551 mm deep by 483 mm wide; 44 mm height
Cabinet Jazz 500 2G H	551 mm deep by 483 mm wide; 88 mm height
Weight Jazz 500 2G	Approx. 15 kg.
Weight Jazz 500 2G H	Approx. 18 kg.
Finish	Plastic film on aluminum (front panels). Stainless steel (cabinet)
Power supply	90÷260 VAC 50/60 HZ single phase. 50-60Hz/ ± 5%
DC supply current	Measured at full power and 28VDC, 2A
AC Apparent Power Consumption	Measured at full power and nominal voltage; 780 VA
Power Consumption	Measured at full power and nominal voltage; 720W
Human interface input device	Rotary encoder with pushbutton
Display	Green-Yellow or blue back panel; 2 raw 16 character LCD
Acoustics Noise	< 56 dBA Leq 3 min @ 1 m
Cooling	Forced air, with internal long life brushless ball bearing fan

Connectors Pin-Out

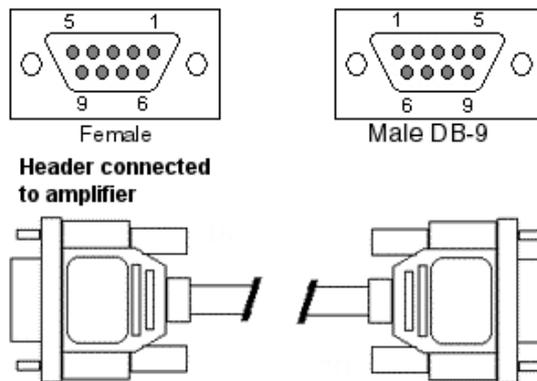
DB25 (REAR PANEL)					
TC = TELECONTROL; TA = TELEALARM; TS = TELESIGNALLING					
Pin	Description	Acronyms	Type	I/O	Value @ & Operating Capability
1	Interlock Output – changes status when Amp is in 'Fault'. Inhibits Exciter or other equipment	OUT-INTRLK	Control (TC)	➔	Open Drain, 20V max 20mA max. Pin can be set Normal open/Normal close; Ron =5 Ω
2	Acknowledge – changes status when Amp is in 'Wait'	ACK-WAIT	Signal (TS)	➔	Open Drain, 20V max 20mA max. Pin can be set Normal open/Normal close; Ron =5 Ω
3	Not Used	--	--	--	--
4	Power Good – changes status when read value decreases below programmed value	ACK-PWRGOOD	Alarm (TA)	➔	Open Drain 20V max 20mA max. Pin can be set Normal open/Normal close; Ron =5 Ω
5	Acknowledge OFF – changes status when Amp is OFF	ACK-OFF	Signal (TS)	➔	Open Drain 20V max 20mA max. Pin can be set Normal open/Normal close; Ron =5 Ω
6	Alarm Reset – resets alarm memory when temporarily connected to ground	ALARM-RST	Control (TC)	➔	200 mSec pulse from open to ground; 1mA; < 100 Ω
7	Not Used	--	--	--	--
8	TX Off – switches off Amp remotely	TX-OFF	Control (TC)	➔	200 mSec Pulse from open to +9 Volt (Pin 25) 1mA; < 100 Ω
9	Interlock Input – if not continuously connected to or open from ground depending on selection: N.O or N.C causes 'Wait'	EXT-INTRLK	Control (TC)	➔	Contact resistance < 100 Ω
10	Set Memory # 6 (*) pin selects memory if continuously connected to ground	M6	Control (TC)	➔	Contact resistance < 100 Ω
11	Set Memory # 4 (*) pin selects memory if continuously connected to ground	M4	Control (TC)	➔	Contact resistance < 100 Ω
12	Set Memory # 2 (*) pin selects memory if continuously connected to ground	M2	Control (TC)	➔	Contact resistance < 100 Ω
13	GROUND – pin is connected to ground	GND	Ground	--	Ground
14	General Alarm – changes status when Amp is in 'Fault'	FAULT	Alarm (TA)	➔	Open Drain 20V max 20mA max Ron =5 Ω
15	Not Used	--	--	--	--
16	GROUND – pin is connected to ground	GND	Ground	-	Ground
17	Not Used	--	--	--	--
18	Acknowledge – ON changes status when Amp is ON	ACK-ON	Signal (TS)	➔	Open Drain 20V max 20mA max Ron =5 Ω
19	1= Local 0= Remote	LOC-REM	Signal (TS)	➔	Open Drain 20V max 20mA max Ron =5 Ω
20	TX On – switches on Amp remotely	TX-ON	Control (TC)	➔	200 mSec Pulse from open to +9 Volt (Pin 25) 1mA; < 100 Ω
21	Force to Internal Stereo (*) – forces MPX from Ext to Int Stereo coder	FORCE-INT-STEREO	Control (TC)	➔	Contact resistance < 100 Ω
22	Set Memory # 7 (*) pin selects memory if continuously connected to ground	M7	Control (TC)	➔	Contact resistance < 100 Ω
23	Set Memory # 5 (*) pin selects memory if continuously connected to ground	M5	Control (TC)	➔	Contact resistance < 100 Ω
24	Set Memory # 3 (*) pin selects memory if continuously connected to ground	M3	Control (TC)	➔	Contact resistance < 100 Ω
25	Auxiliary Power Supply Output	+9V	Output	➔	+9 Volt/100mA max
Symbols: ➔ Output ➔ Input (*) Combo version only					

DB25 CONNECTOR



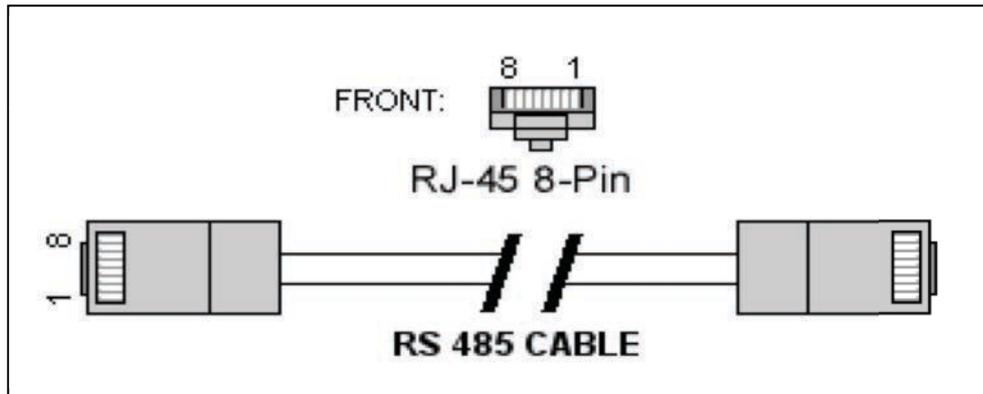
TELEMETRY DB9 (REAR PANEL)					
Pin	Description	Acronyms	Type	I/O	Value @ / Impedance
1	GROUND –	GND	Gnd	-	
2	Current reading – reads power Amp current	IPA	Analog value	➔	3.0V/50A Internal impedance > 100kΩ
3	Forward Input Power –reads Forward RF driving power	INP-FWD-MEAS	Analog value	➔	2.5V/30W Internal impedance > 100kΩ
4	Forward Output Power – reads Forward RF Output power	OUT-FWD-MEAS	Analog value	➔	3.0V/1300W Internal impedance > 100kΩ
5	Temperature – reads incoming air temperature	TEMP-AIR-MEAS	Analog value	➔	2.0V/80°C Internal impedance > 100kΩ
6	Voltage reading – reads voltage supplied to power Amp	VPA	Analog value	➔	3.0V/50V Internal impedance > 100kΩ
7	Input Reflected Power – reads Input reflected power	INP-REF-MEAS	Analog value	➔	2.5V/7W Internal impedance > 100kΩ
8	Output Reflected Power – reads Output reflected power	OUT-REF-MEAS	Analog value	➔	3.0V/250W Internal impedance > 100kΩ
9	RF Temperature – reads RF heat sink temperature	RF-TEMP-MEAS	Analog value	➔	1.0V/100°C Internal impedance > 100kΩ
Symbols: ➔ Output ◀ Input					

DB9 CONNECTOR



RS485 –CONNECTORS RJ45 1 & 2 (REAR PANEL)					
Pin	Description	Acronyms	Type	I/O	Value @
1	RS485 Line1 - Terminal A used for Telemetry Control	A1	Communication	↔	Differential output(+/-5V) Baud rate 115200 b/sec Parameters - 9,N,1
2	RS485 Line1 - Terminal B used for Telemetry Control	B1	Communication	↔	
3	GROUND	Gnd			
4	Not Used	--			
5	Not Used	--			
6	GROUND	Gnd			
7	RS485 Line2 - Terminal A used for External Host	A2	Communication	↔	Differential output(+/-5V) Baud rate 115200 b/sec Parameters - 9,N,1
8	RS485 Line2-Terminal B used for External Host	B2	Communication	↔	
Symbol: ↔ by-directional					

RJ45 CONNECTOR



RJ45 Connector ETRNET Pin-out

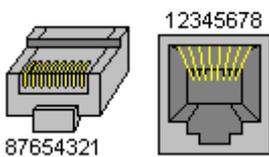
Ethernet Cable

About the Cable

Here is what the internals of the ethernet cable look like:



Here is a wiring diagram and pin out:



Modular Connector Plug and Jack Pin Out

Pin Outs:

There are two basic ethernet cable pin outs. A straightthrough ethernet cable, which is used to connect to a hub or switch, and acrossover ethernet cable used to operate in a peer-to-peer fashion without a hub/switch. Generally all fixed wiring should be run as straightthrough. Some ethernet interfaces can cross and un-cross a cable automatically as needed, a handy feature.

ETHERNET-CONNECTORS RJ45 (REAR PANEL)			
RJ45 Pin	Description	Wire Color (T568B)	
1	Transmit +	White/Orange	
2	Transmit -	Orange	
3	Receive	White/Green	
4	Unused	Blue	
5	Unused	White/Blue	
6	Receive	Green	
7	Unused	White/Brown	
8	Unused	Brown	

Meter Readings

The following parameters can be read on front display

- ❑ Forward power (FWD)
- ❑ Reflected power (REF)
- ❑ DC Supply voltage
- ❑ Frequency (active channel)
- ❑ Frequency (stored channels 1 to 6)
- ❑ Mono and stereo sensitivity (0,25 dB step)
- ❑ Programmed output power
- ❑ MPX peak modulation
- ❑ L & R peak level
- ❑ RDS, SCA, Aux, MPX external modulation
- ❑ Programmed audio parameters (+L or -L, +R or -R, L on/off, R on/off, Pre-emphasis lin, 50, 75 μ S, Limiter on/off, Input Impedance Z=10KOhm/ 600 Ohm)
- ❑ Alarm status
- ❑ Memory status
- ❑ Internal voltage
- ❑ Serial Number

JAZZ 500 2G LD-MOSFET devices

Freescale Semiconductor
 Technical Data

Document Number: MRF6V2300N
 Rev. 5, 4/2010



RF Power Field Effect Transistors
 N-Channel Enhancement-Mode Lateral MOSFETs

Designed primarily for CW large-signal output and driver applications with frequencies up to 600 MHz. Devices are unmatched and are suitable for use in industrial, medical and scientific applications.

- Typical CW Performance: $V_{DD} = 50$ Volts, $I_{DQ} = 900$ mA, $P_{out} = 300$ Watts, $f = 220$ MHz
 Power Gain — 25.5 dB
 Drain Efficiency — 68%
- Capable of Handling 10:1 VSWR, @ 50 Vdc, 220 MHz, 300 Watts CW Output Power

Features

- Characterized with Series Equivalent Large-Signal Impedance Parameters
- Qualified Up to a Maximum of 50 V_{DD} Operation
- Integrated ESD Protection
- 225°C Capable Plastic Package
- RoHS Compliant
- In Tape and Reel. R1 Suffix = 500 Units per 44 mm, 13 inch Reel.

MRF6V2300NR1
MRF6V2300NBR1

10-600 MHz, 300 W, 50 V
 LATERAL N-CHANNEL
 SINGLE-ENDED
 BROADBAND
 RF POWER MOSFETs



CASE 1486-03, STYLE 1
 TO-270 WB-4
 PLASTIC
 MRF6V2300NR1

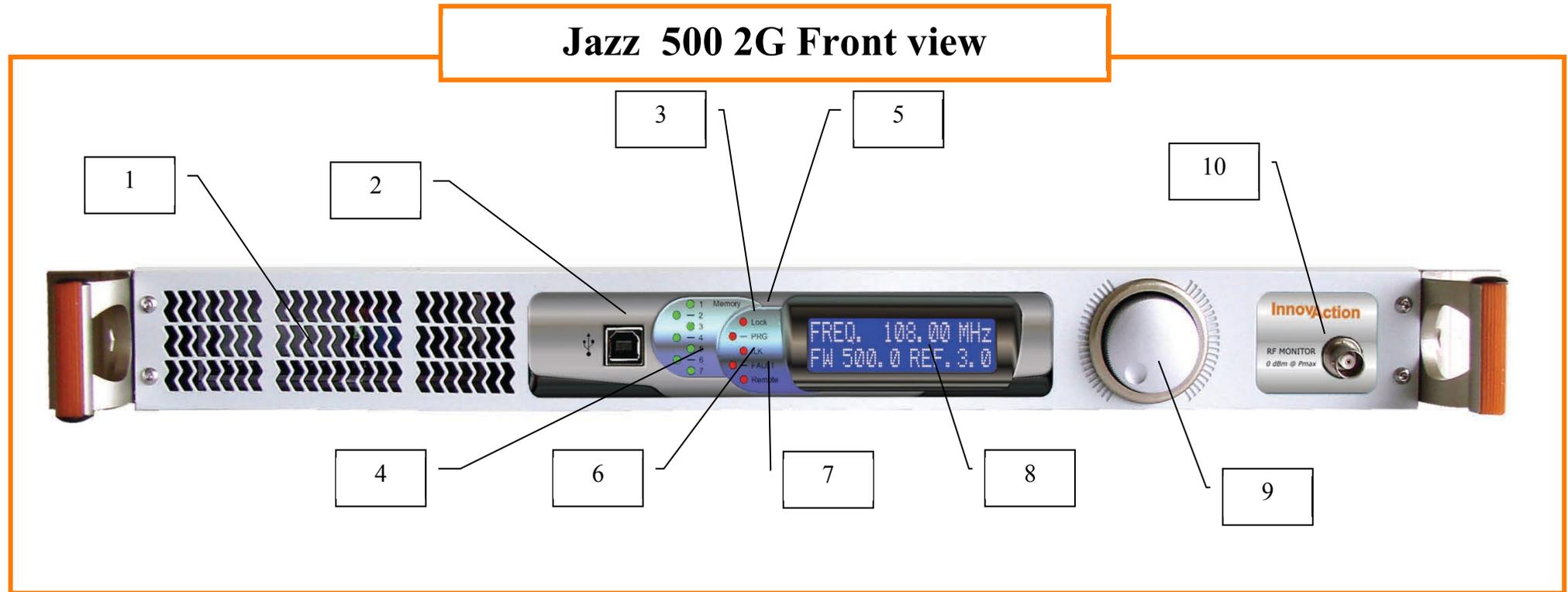


CASE 1484-04, STYLE 1
 TO-272 WB-4
 PLASTIC
 MRF6V2300NBR1

PARTS ARE SINGLE-ENDED

Mechanical Layout

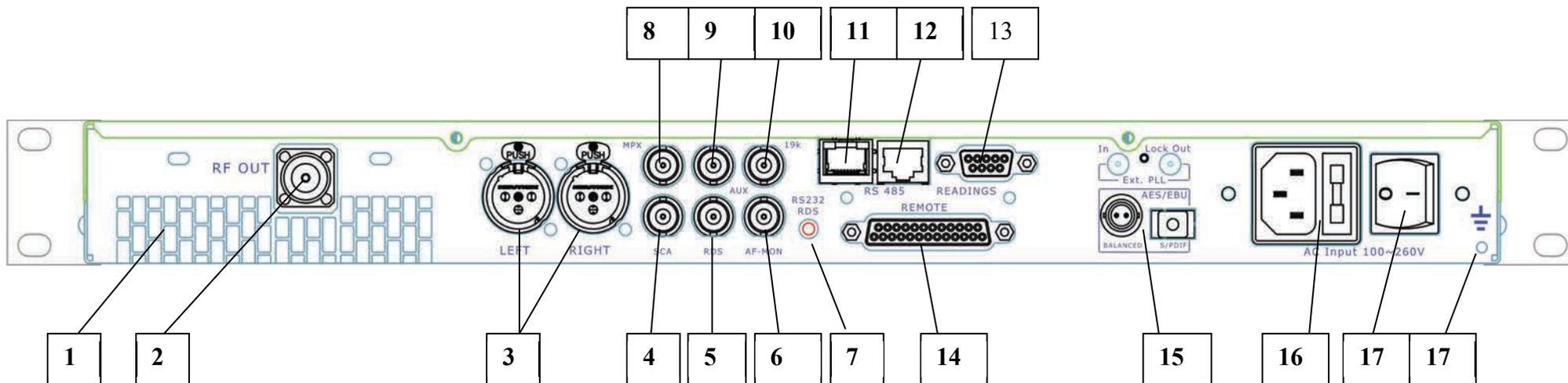
Jazz 500 2G Front view



- 1** Air Grid Input Inlet
- 2** USB Connector
- 3** Status Indicator

- 6** ILK Indicators
- 7** Fault Indicators
- 8** Two- row, sixteen-character LCD Display

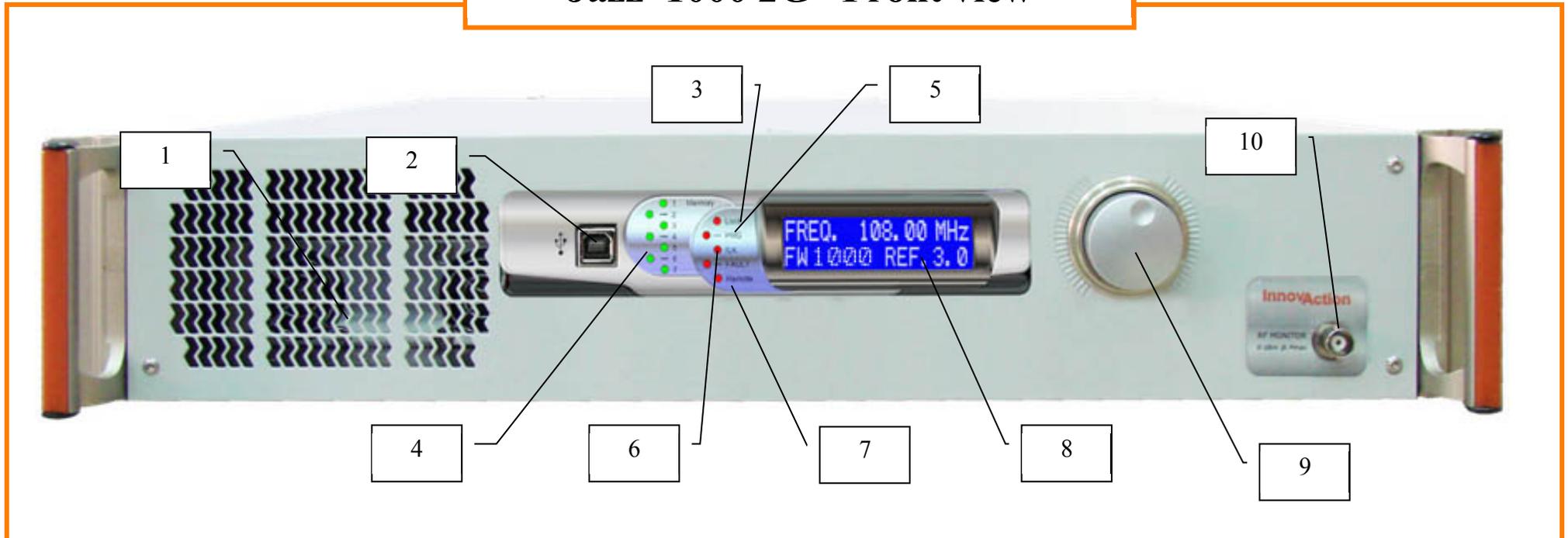
Jazz 500 2G Rear view



- | | |
|---|--|
| <ul style="list-style-type: none"> 1. Air Grid Input Outlet 2. RF Output N Female Connector 3. XLR Balanced Input L/R (Right MONO) 4. SCA/RDS Unbalanced Input 5. RDS ext Input 6. AF Monitor 7. RS232-RDS in Program 8. MPX EXT Unbalanced Input 9. AUX Input | <ul style="list-style-type: none"> 10. 19 kHz Output for External Sync 11. RJ45 for 485 12. RJ45 for TC/IP Connection (Optional) 13. DB9 connector Readings 14. DB25 Connector - Remote control 15. AES-EBU TOS Optical Input (Optional) 16. VDE Mains Socket/ON/OFF+ Fuse 17. Mains Switch 18. Ground Connection |
|---|--|

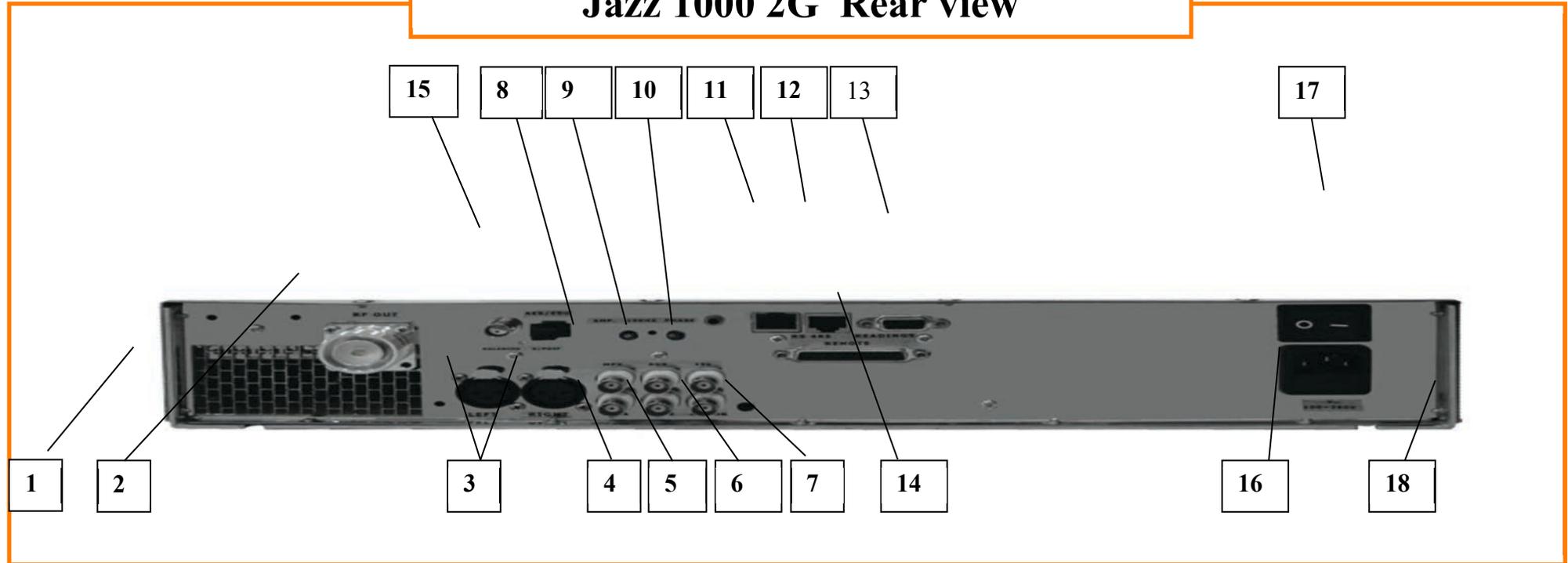
Mechanical Layout

Jazz 1000 2G Front view



- | | |
|--|---|
| <p>1 Air Grid Input Inlet</p> <p>2 USB Connector</p> <p>3 Status Indicator</p> <p>4 Memory Activation and Indicators</p> <p>5 Data Flow Indicator</p> | <p>6 ILK Indicators</p> <p>7 Fault Indicators</p> <p>8 Two- row, sixteen-character LCD Display</p> <p>9 Rotary Encoder</p> <p>10 RF Output Monitor</p> |
|--|---|

Jazz 1000 2G Rear view



- | | |
|---|--|
| <ul style="list-style-type: none"> 1. Air Grid Input Outlet 2. RF Output N Female Connector 3. XLR Balanced Input L/R (Right MONO) 4. SCA/RDS Unbalanced Input 5. RDS ext Input 6. AF Monitor 7. RS232-RDS in Program 8. MPX EXT Unbalanced Input 9. AUX Input | <ul style="list-style-type: none"> 10. 19 kHz Output for External Sync 11. RJ45 for 485 12. RJ45 for TC/IP Connection (Optional) 13. DB9 connector Readings 14. DB25 Connector - Remote control 15. AES-EBU TOS Optical Input (Optional) 16. VDE Mains Socket/ON/OFF+ Fuse 17. Mains Switch 18. Ground Connection |
|---|--|

Section *Three* ③

INSTALLATION & USE

Delivery



Please **CAREFULLY CHECK** InnovAction delivery box for any punctures or other evidence of damage. If any, please notify InnovAction as soon as possible.

When unit is delivered as STAND ALONE equipment the following items are included:

1. Transmitter
2. One CD containing the manual's electronic version
3. Mains cable - in some countries cable is supplied with one connector only. Customers must use matching connector to adapt to local standard mains socket.
4. Connector for DC connection Amphenol mod.
5. The above content could not be included in equipment delivered to Customers already integrated in a system.

Operating Recommendations



PLEASE NOTE: Transmitter **cannot** operate without top cover
The air-cooling system is designed to work in a closed box. Serious
OVERHEATING will occur if transmitter operates without top cover

Avoid any mains voltage variation which exceed expected limits. The **worst** conditions occur with a **very low** RF power (i.e. 5W) and **very high** mains voltage (i.e. 300V), or vice versa



BE SURE that mains voltage **matches** the selected voltage. A mistake in the setting may cause serious problems to transmitter. The rear panel voltage selector is located close to the ON/OFF switch and indicates the preset voltage range. If you need to change voltage or replace a fuse, follow the instructions below



Fuse Location

Replace Fuse

SWITCH-OFF AND DISCONNECTION FROM MAINS!

Slide out the internal black plastic cover of Mains socket to change the two fuses

Replace fuses by using one :

for Jazz 500W-2G -16A fuse for 220/230 V range and one 20A for 110/117 V

Slide plastic cover back in

Connect Mains voltage

Mechanical block of the VCO

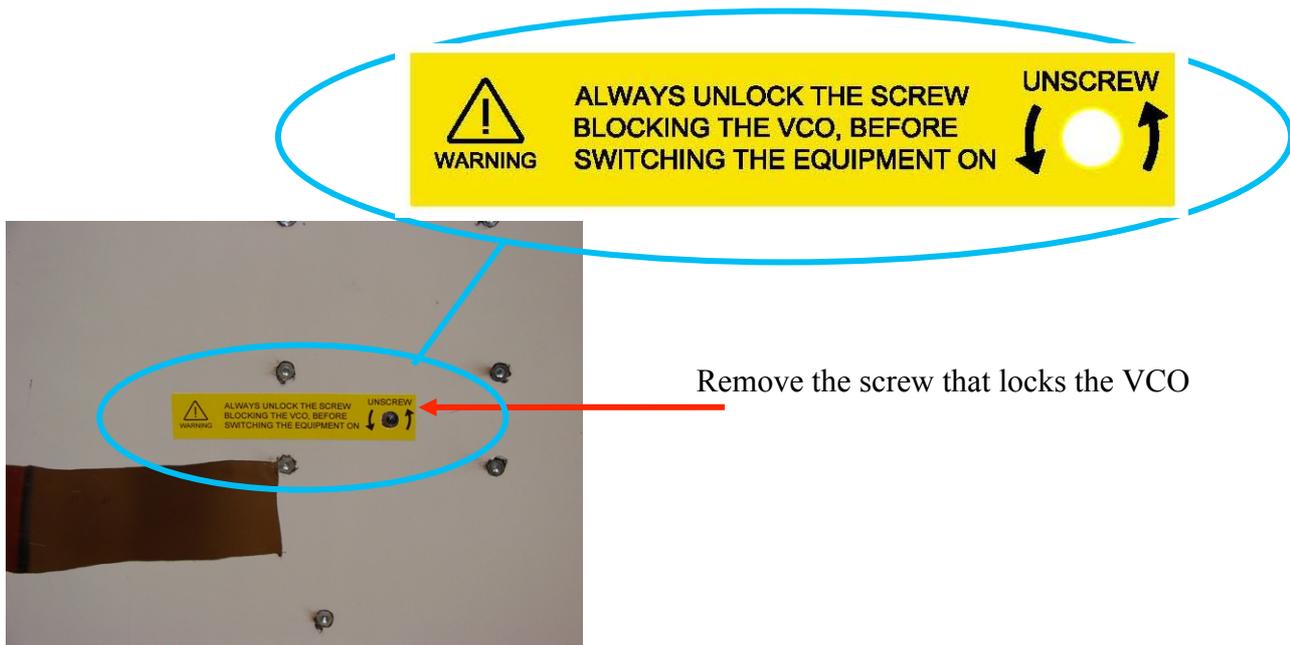


**Attention. The VCO has a mechanical lock
Unscrew the screw before use**

On the top cover of the exciter, a label that indicates the presence of lock Vco is applied



Instructions label is applied on the bottom



Remove the screw that locks the VCO



Make sure that during the transportation of the transmitter, the VCO is locked with the fixing screw

Description of the Encoder Knob

The **encoder knob** located on front panel is the main access to control amplifier in conjunction with display readings. It rotates clockwise or anticlockwise, and can be pushed. The overall procedure to browse through the different menus is very intuitive.

The LCD display shows **two rows with sixteen characters** and a number of different menus. Three operating modes are possible:

visual only mode: it reads set values or parameters
program mode: it sets up parameters and/or other values to modify
special program: it resets power and upgrades firmware

In all cases when turning the encoder knob and the indication “**Push to Program**” appears on display it is possible to modify parameters. This simple message “Push to Program” is the basic way to select and store.

A description of all available menus displayed on the LCD is reported in the following sections. It is important to remember that:

By rotating the knob: you scroll the sub-menus, increase or decrease a given value

By pushing/pressing: you select parameters to modify; you store values and confirm selection



Description Of Front Panel Leds & Connectors

The **green** LED [4] indicates that transmitter is locked

The **red** LED [5] indicates that *program mode* is active and the operator must be alert

The blinking **yellow** LED [6] indicates that transmission data is active

Transmitter can be managed locally or remotely. When remote mode is selected **yellow** LED is active [7]

The two-color (**green** / **yellow**) LED [3] indicates whether a USB connection is active or not

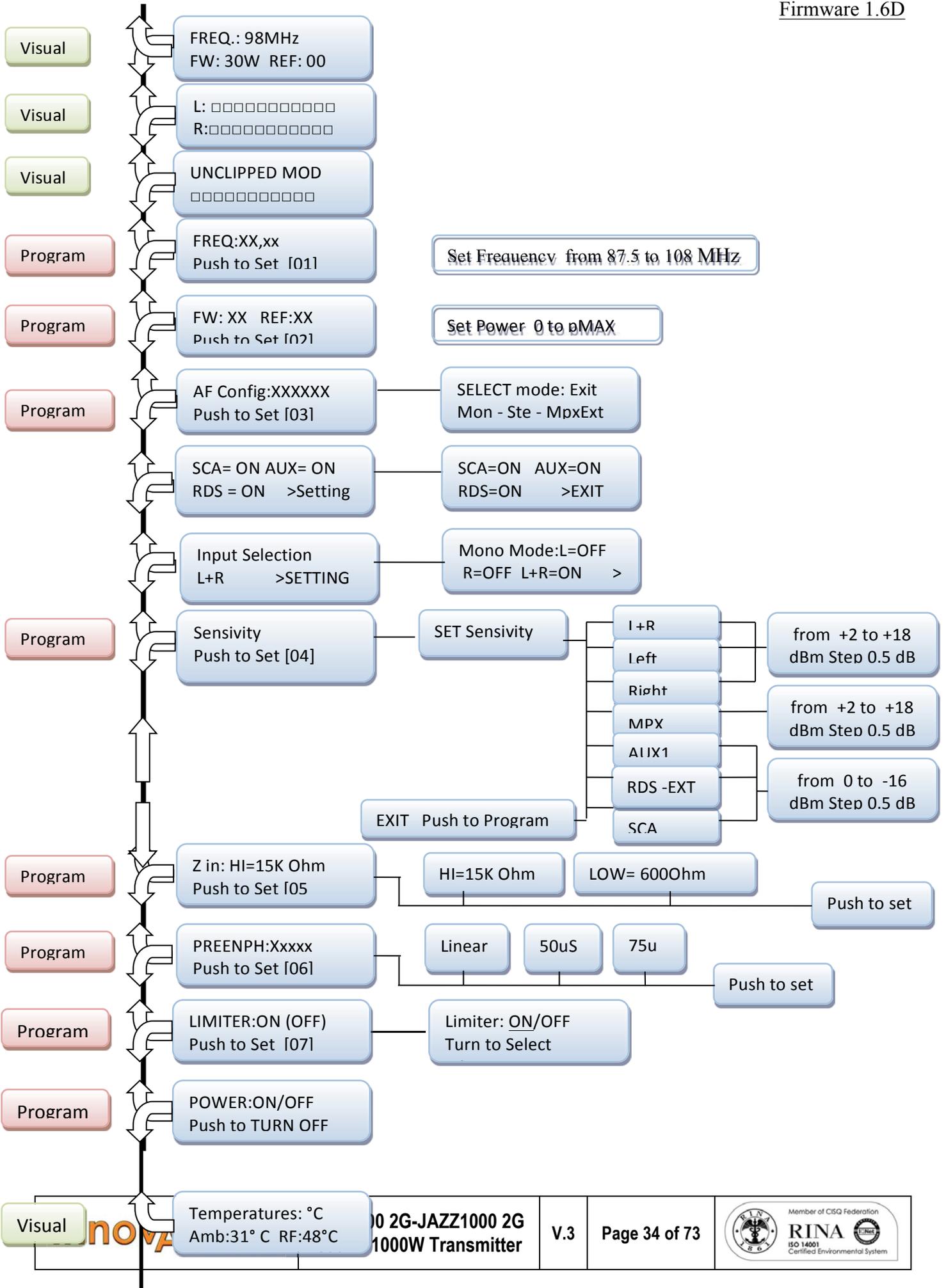
There are 7 two-color LEDS (8) to indicate memory status

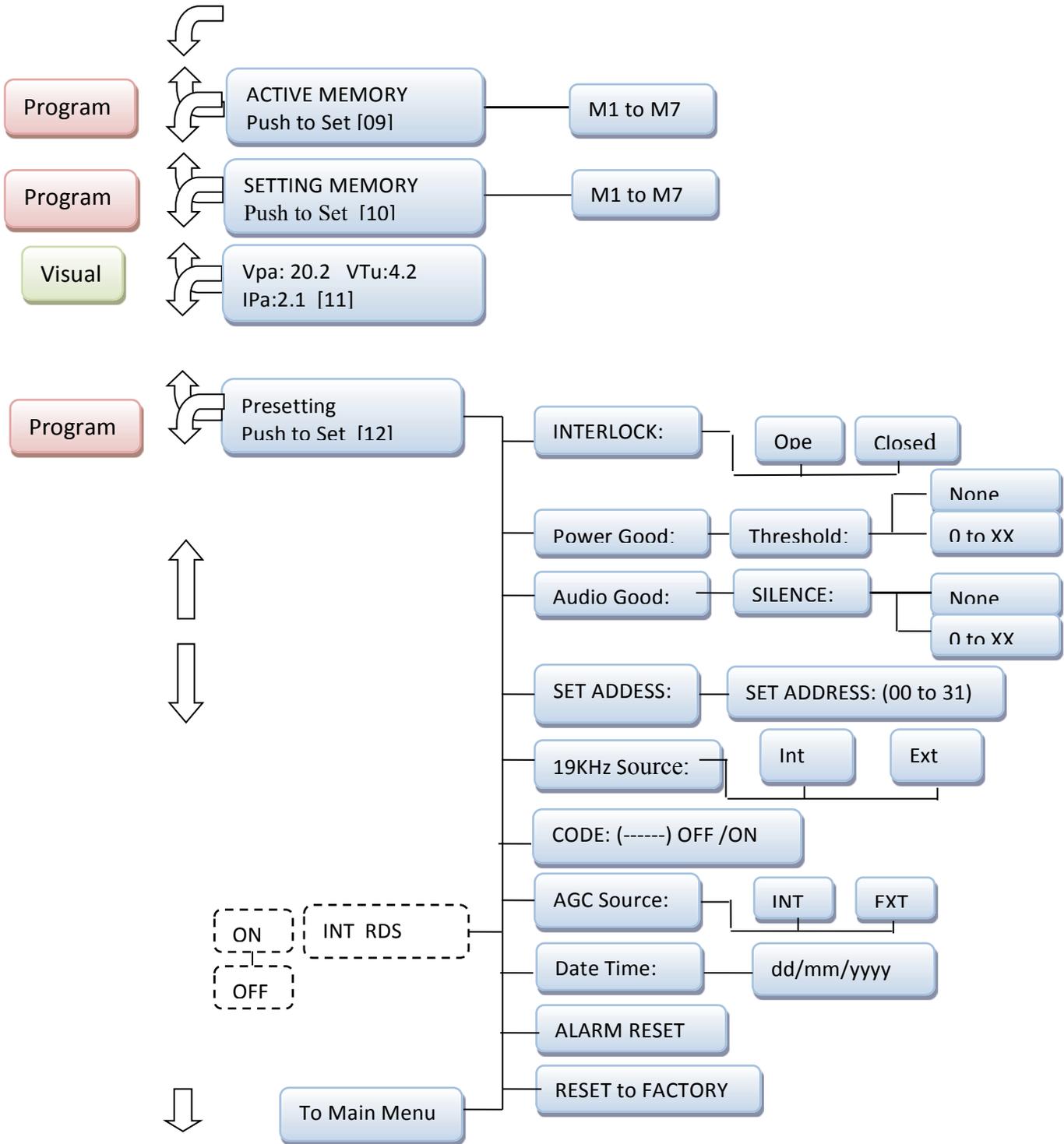
The USB connector [2] allows a PC connection

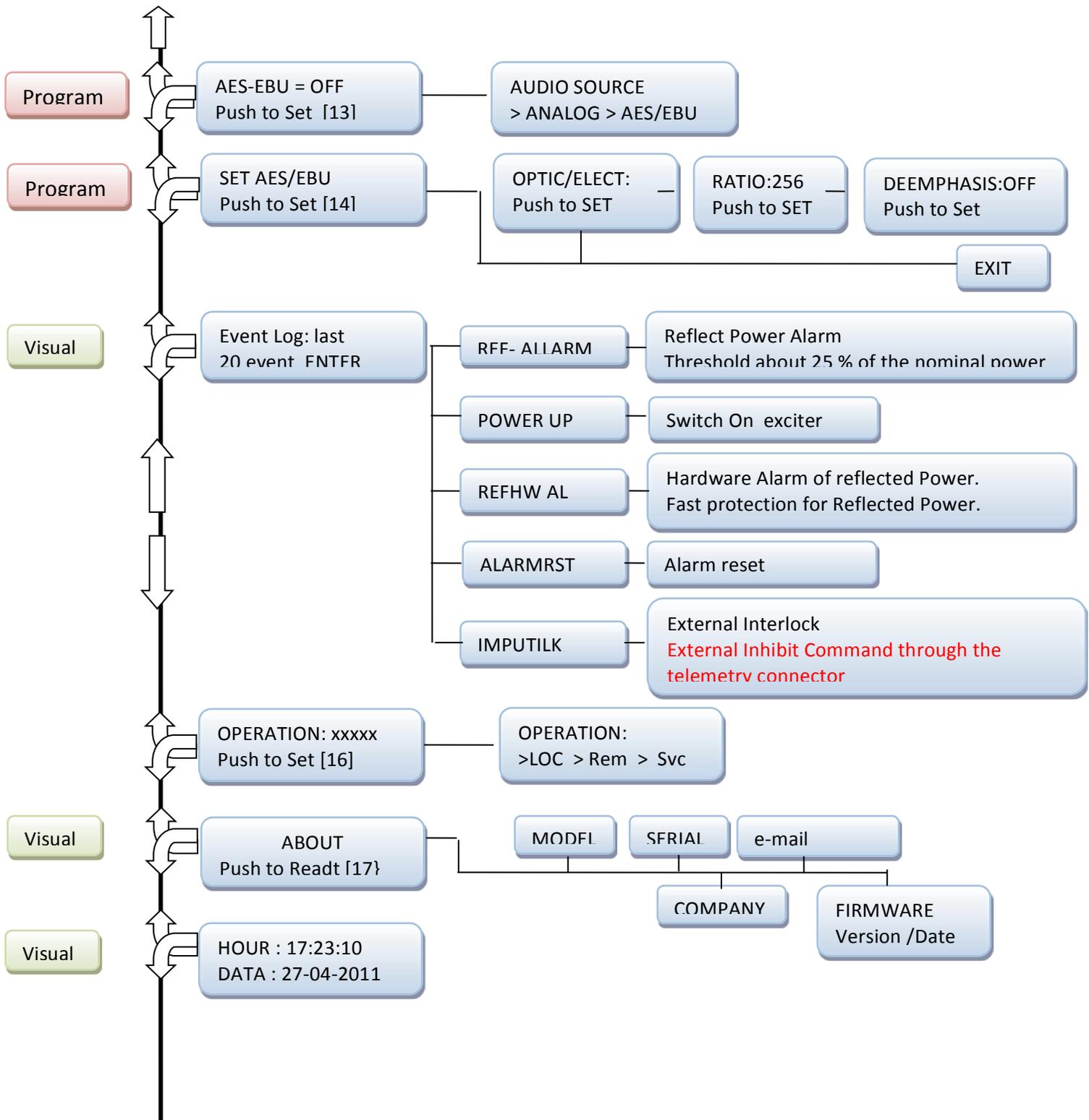
The BNC female connector [12] allows to monitor and measure RF

Flow chart Encoder Knob

Firmware 1.6D







Setting Memories

Our software stores all parameters in seven different memories from M1 to M7. Only one memory at a time is active and can control the transmitter.

All operating parameters or any other value such as power output or audio sensitivity can be stored in any of the seven memories. The programming operation does not affect the active (working) memory. When data setting is completed data can be saved. All data will be changed simultaneously if you activate a memory other than the one previously in use. Memory status is indicated by a green/yellow LED [8]. Default memory (Memory 1) is indicated by first LED starting from top. From memory setting MENU shown in display you can select a different memory (from Memory 2 to Memory 7 via encoder knob or by remote control). Each selected memory is indicated by corresponding LED. The switching of a yellow LED shows which memory you are loading. Loaded memories are recalled by using memory activation menu in which case LED for active memory becomes green.

If modified data is saved in the active memory change will be operational when programming is completed (data is stored and program mode is closed).

RF output power control has two (2) different operating modes.

First to program RF power in the active memory. You enter the desired power value which changes in real time.

Second to program power in a non active memory. You enter power value and value is stored and becomes operational when memory is activated.

Memories can be activated in three different ways:

Via the Encoder Knob as explained

Via the DB25 rear connector (Exciter in “remote” mode)

Via web interface option if it is present (Exciter in “remote” mode)

Section *Four* ④

VISUAL MODE OPERATION

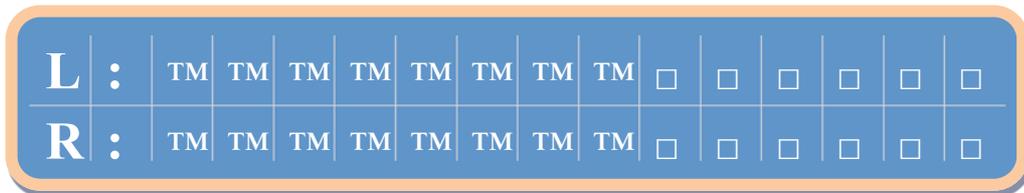
Various Menus

Visual mode is designed to allow readings of numerous important parameters of the Exciter. It is possible to visualize parameters and other stored data without making changes while Exciter is operating normally. Visual mode is intended for consultation only and therefore described first in the sequence Visual/Program/Special modes. To ensure optimum reading the LCD is placed in the central section of the front panel, it contains two rows holding sixteen characters and visualizes the information listed below by simply rotating the encoder.

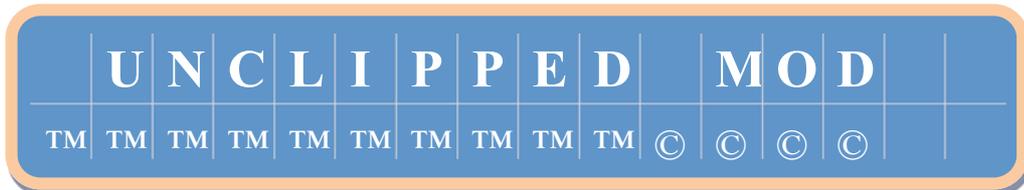
Audio Reading Pages

The Audio menu shows the slides described below

Left & Right bars show peak modulation. The ten filled square blocks indicate 10% each (7.5Khz) of the permitted deviation (75kHz). Four empty blocks show over-modulation



2) Unclipped Modulation



Other Parameter Reading Menu

3) TEMPERATURES of the Ambient and RF STAGE

T	e	m	p	e	r	a	t	u	r	e	s			
A	m	b	:	2	5	°		R	F	°	4	4		

1) VPA-APC-IPA

V	p	a	:	2	0	.	9		V	T	u	:	4	.	5
I	P	a	:	2	.	1									

This is the voltage that controls the RF amplifier gain in order to stabilize output power. A value between 2 and 4V can be accepted. A typical value is 3.3 to 3.6V. Values out of specified range indicates a possible failure.

		I	P	A	:	1	.	4	6		A			
		P	U	S	H	T	O	E	X	I	T			

It indicates the current absorbed from the RF power stage. IPA current is the result of the driver and the power amplifier supply consumption. The RF driver section absorbs approx. 300mA. To evaluate the final amplifier current you must simply subtract 300mA from the total IPA current

The nominal current is as follow:

IPA@ 500W is xx.0A

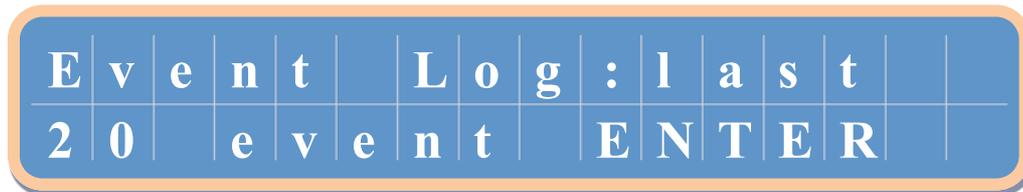
A value higher than 20%, it is an indication that a failure could occur.

To exit slide push encoder knob and the following slide indicates menu is being shut

T	M	T	M	T	M	T	M	T	M	T	M	T	M	T	M

Event Log Reading Menù

The following slide shows the log of 19 event last

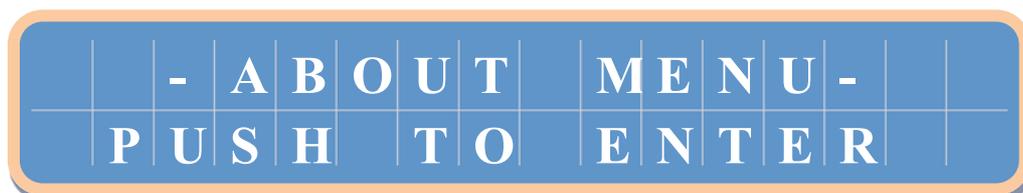
**Log Events**

Event name	Description	Type	Notes
REF-ALARM	Reflected Power alarm	Alarm event	Threshold about 25 % of the nominal power
POWER-UP	Switching-on of the exciter	Simple event	
REFHW AL	Hardware Alarm of Reflected Power	Alarm Event	Fast protection for Reflected Power. This event type is available since the firmware release 1.43
ALARMRST	Alarm reset	Simple event	
RFT ALARM	Temperature alarm of the RF block	Alarm Event	>90°C
INPUTILK	External Interlock	Simple event	External Inhibit Command through the telemetry connector on rear panel part

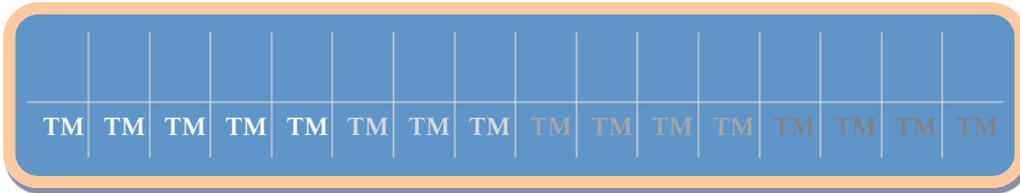
The exciter goes in fault state and it is blocked, when the alarm events are 20. In the fault state do the alarm reset and, if the problem remains, remove the cause of the problem.

"About" Slides

Turn encoder knob to find the ABOUT MENU which contains various slides with general information on Amplifier's Model, Serial number, Manufacturer's address, Firmware version, Website and Email address

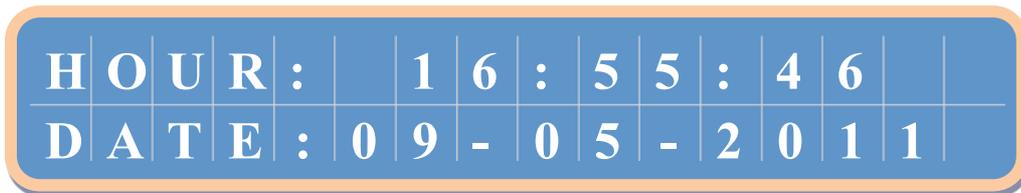


When exit is selected the following slide indicates menu is being shut



Date Hour Reading Slides

Hour and date is shown in this slide

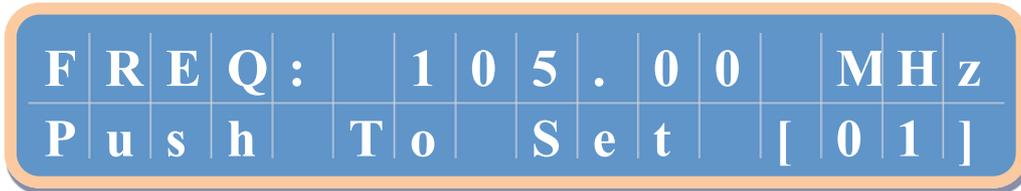


Section *Five* 5

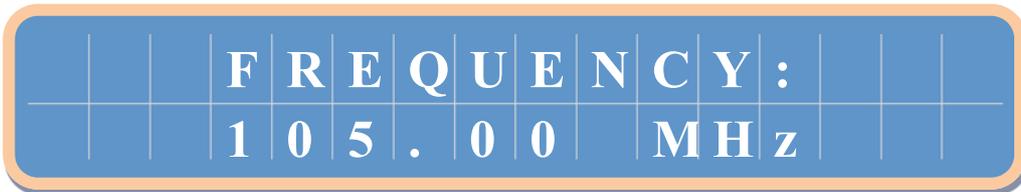
PROGRAM MODE OPERATION

Frequency Setting.[01]

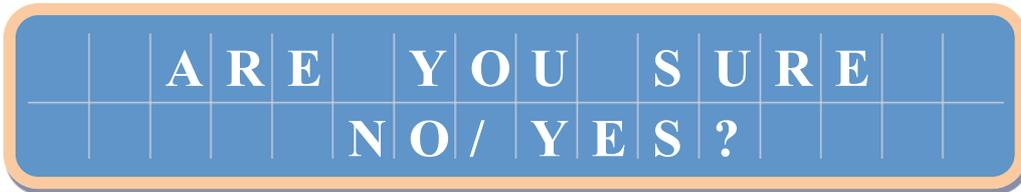
Rotate encoder knob to find slide to program frequency. Push encoder knob as indicated



Slide below shows current frequency at 105.00 Mhz. Value can be modified when cursor moves under relevant characters. Turn encoder knob right or left to increase or decrease to set the wanted value



The range limits are: 87.50 MHz to 108.00 MHz. The default step is 10 kHz, but upon request, it is possible to choose different threshold values (i.e. 25 or 50 kHz). Confirm new value and exit routine by pushing the encoder knob



Cursor highlights **NO** selection by default to prevent pushing the encoder knob and enter a mistaken value

To validate your change move cursor to **YES** selection and press encoder knob, or move cursor back to **NO** selection to reject setting

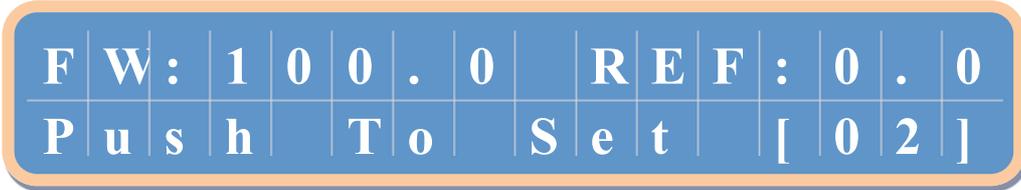
Each time a **YES** selection is made the following slide appears, or if no change is made programming is exited



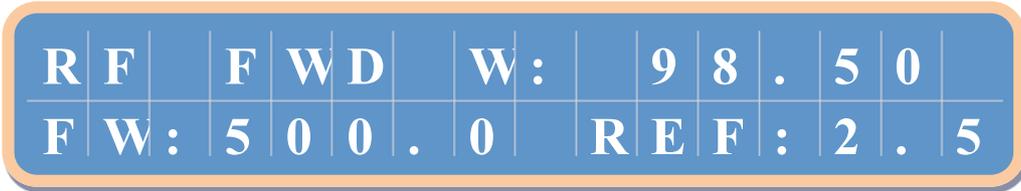
The microprocessor stores new data in the memory and selected value is active

Rf Power Slides.[02]

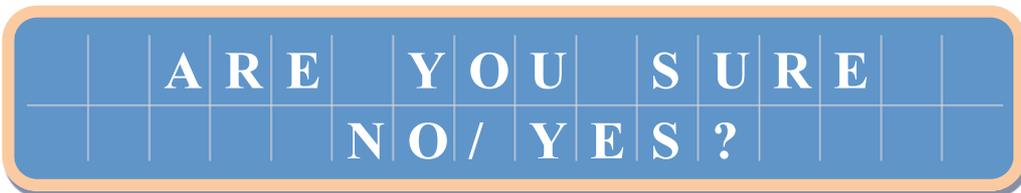
To program RF Power output rotate the encoder knob to find slide below. Follow instructions to push encoder knob to enter program mode



The first slide on front display reads the information below



Turn encoder knob right or left to increase or decrease value as required
Confirm selected value by pressing encoder knob and following slide appears



Cursor highlights **NO** selection by default to prevent pushing the encoder knob and enter a mistaken value

To validate your change move cursor to **YES** selection and press encoder knob, or move cursor back to **NO** selection to reject setting.

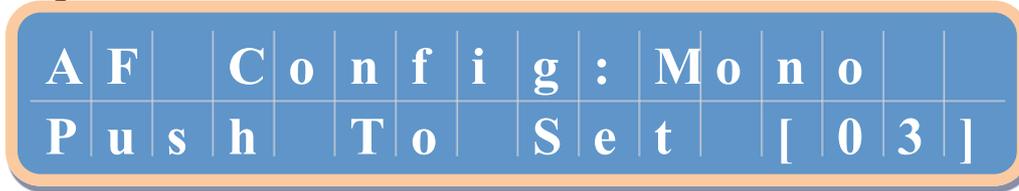
Each time a **YES** selection is made the following slide appears, or if no change is made programming is exited



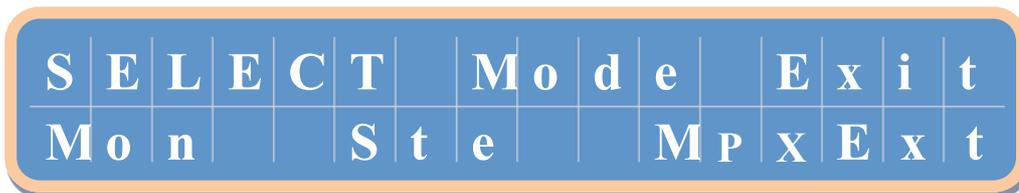
The microprocessor stores data in the memory and selected value is active

Audio Setting [03]**1) Audio Modulation**

The following slide shows the stored Mod-in



Press the encoder knob and the following slide is shown



Select Modulation MONO, STEREO or MPX Ext;
confirm selected mode by pushing the encoder knob.

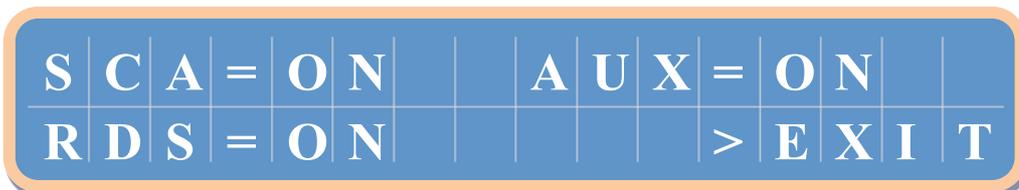
To validate your change move cursor to **YES** selection and press encoder knob, or move cursor back to **NO** selection to reject setting

Each time a **YES** selection is made the following slide appears, or if no change is made programming is exited



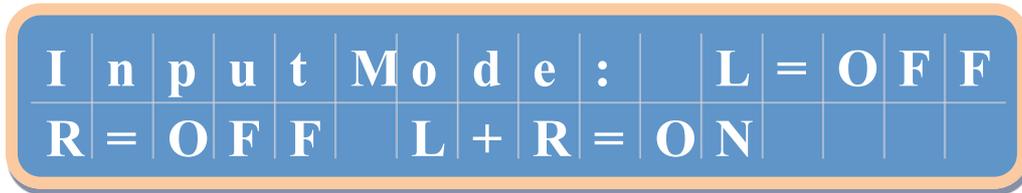
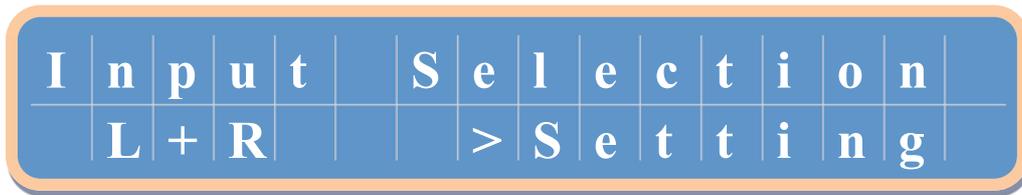
The microprocessor stores new data in the memory and selected value is active

The following slide to select the status (ON / OFF): SCA or RDS AUX

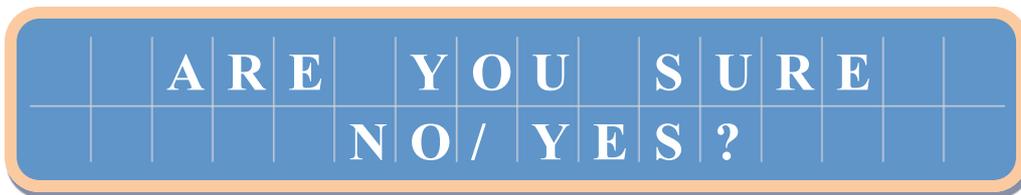


2) Audio Input Selection

Slide is ready by the following inputs to be enabled



Placing the cursor in the wanted selection and change the status from ON to OFF and vice versa. If you place the cursor "<" and press the encoder, the latter changes state and becomes ">", then you can press forward with the choice



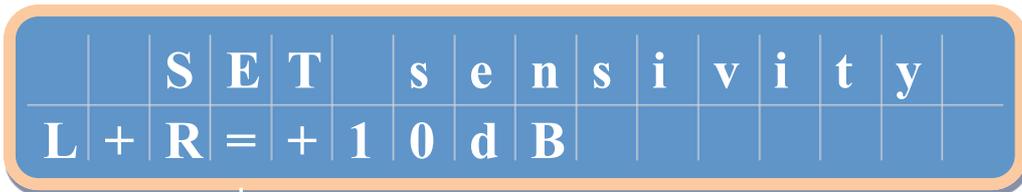
yes or no to continue

Sensitivity [04]

The following slide shows stored Sensitivity value and consequently “on air”. This slide is also the access point to set or program Sensitivity value

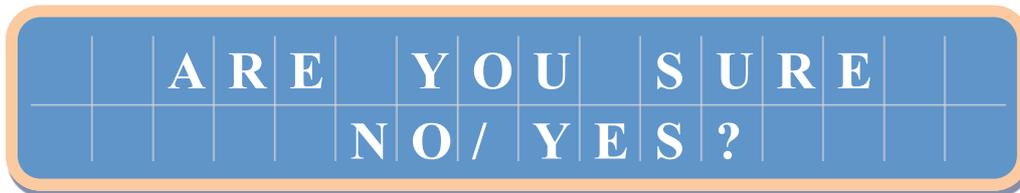


Press encoder knob and the following slide is shown



If you rotate the encoder will see the following selections: *L + R, Left, Right, MPX, AUX1, SCA, RDS*, where each may select the sensitivity. See table AUDIO INPUTS

Exit, or close and confirm new value by pushing the encoder knob



Cursor highlights **NO** selection by default to prevent pushing the encoder knob and enter a mistaken value

To validate your change move cursor to **YES** selection and press encoder knob, or move cursor back to **NO** selection to reject setting.

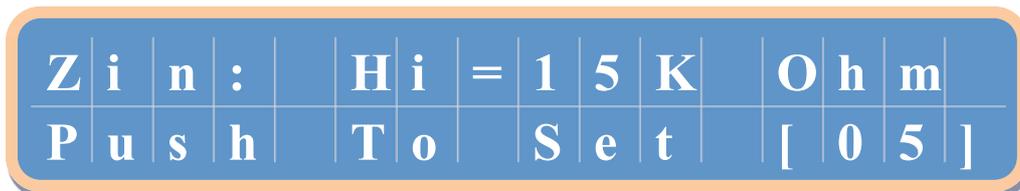
Each time a **YES** selection is made the following slide appears, or if no change is made programming is exited



The microprocessor stores the new data in the memory and selected value is active

Input Impedance [05]

Slide is ready by the following inputs to be enabled



Exit, or close and confirm new value by pushing the encoder knob

Limiter Setting [07]

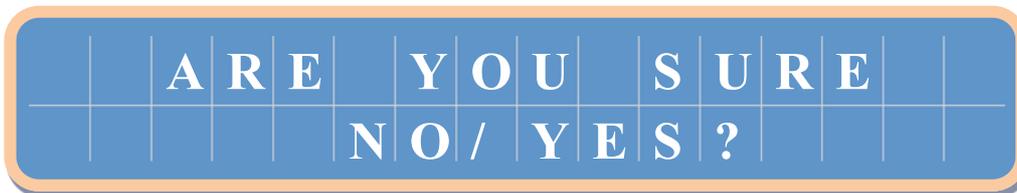
The following slide shows the LIMITER status and how to switch ON or OFF as required



PUSH TO ACTIVATE

To enter new value press encoder knob, move cursor to selection

YES selection to accept or NO to reject



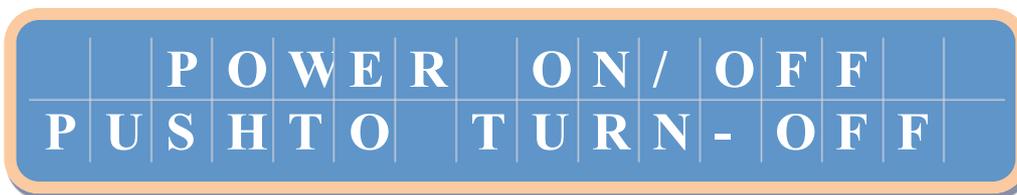
If YES is selected following slide is



The microprocessor stores new data in the memory and new Limiter status is activated

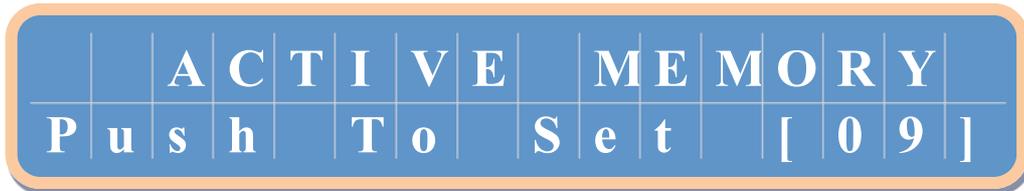
POWER ON/OFF

The following slide shows the LIMITER status and how to switch ON or off as required

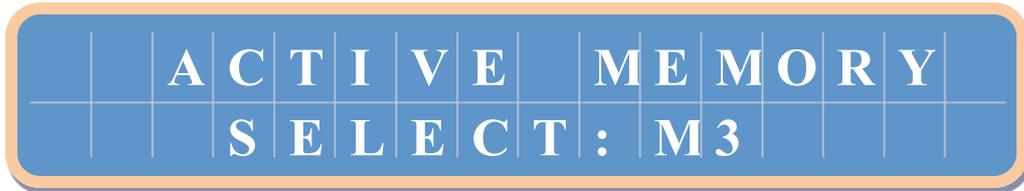


In this section you can switch-ON or OFF the RF output of the exciter (No perceptible residual RF is present on spectrum).

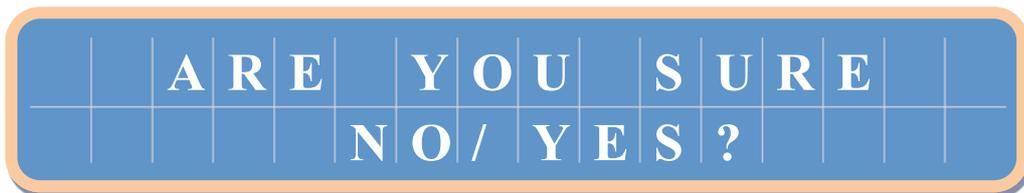
RECALL/ SET e Memory [9]



To activate the parameters stored in a different memory of the transmitter select the **ACTIVE MEMORY** menu as shown in the following slide



Turn the encoder knob to select a specific memory and confirm selection as usual. Move cursor to YES selection and press encoder knob



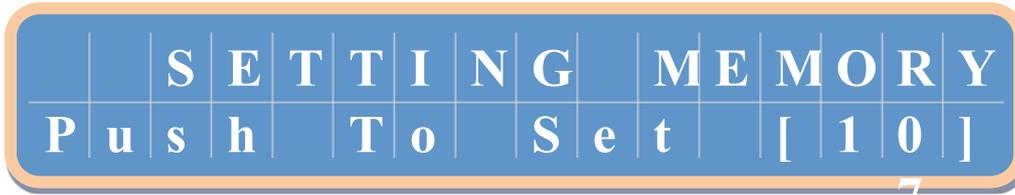
If YES selection



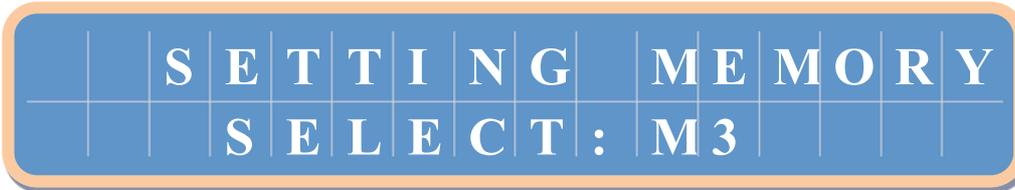
New data is stored

Memory Setting [10]

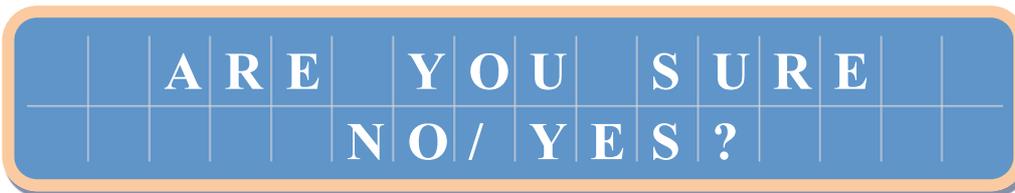
To program the different memories of Transmitter you must enter the SETTING MEMORY menu, as shown in the example below



Press encoder knob and the slide displays



Turn encoder knob to select the memory to program. Pushing the encoder knob to access the “setting state” which is indicated by the (yellow) front panel LED switching on. All selected parameters such as Frequency, Power, Audio, Address, etc etc can be set up and stored in the chosen memory



Slide above shows how to confirm as usual and below the micro loads new data



Note:

If you are in SETTING MEMORY only the slide for programming is displayed;
To activate a memory you must exit the SETTING MEMORY menu

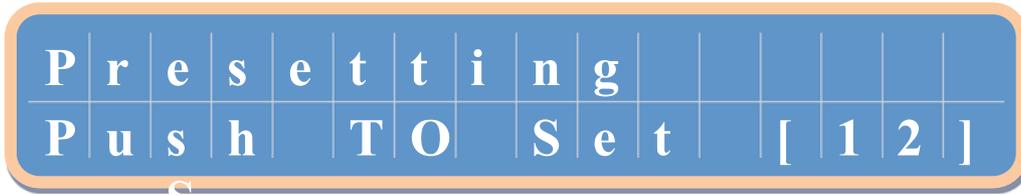


This is a very important slide: please pay attention to slide because it indicates:

1. Which memory successive data will enter (“MEMORY SET”)
2. Which memory must be set as operational for current configuration

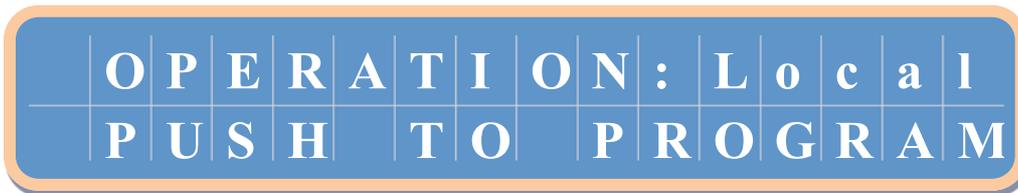
Presetting [12]

Setting Menu refers to a some specific settings. Push the encoder knob to program the following settings



1) LOCAL/REMOTE Operation

The following slide shows current mode of operation



Push encoder knob to program new mode of operation

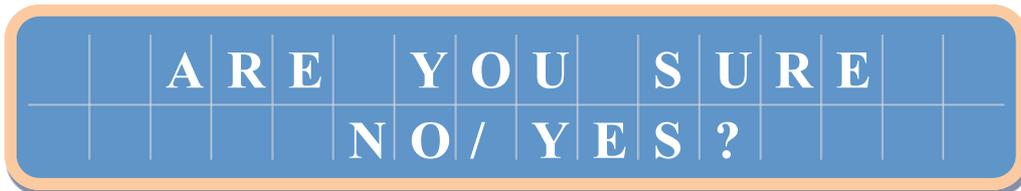


move cursor to select Local, Remote or Svc (Service) Operation as required. Push encoder knob to program.



In every selected subsequent appears increasingly choosing "ARE YOU SURE"

Choose with cursor and press to confirm to No or to Yes, and Loading slide appears.

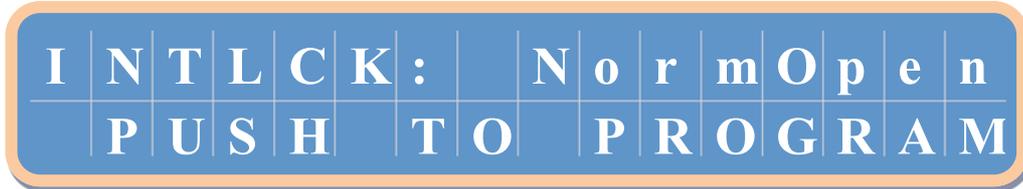




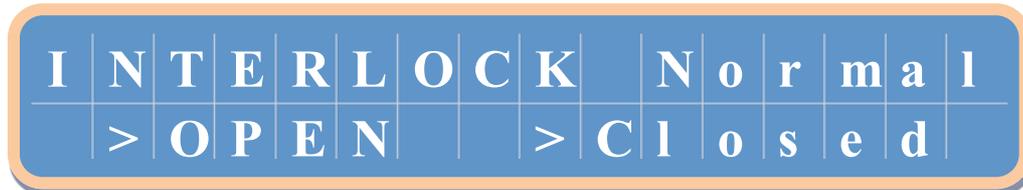
All remote commands via RS485 or via telemetry commands connector (DB 25) are disabled when the exciter is set in “local” mode. Otherwise they are enabled when the exciter is set in “remote” mode and all settings by menus are disabled except for this menu.

2) Normal Open\Normal Closed INTERLOCK

The following slide shows the currently stored “Interlock” status



Push encoder knob to program new data and slide shown is



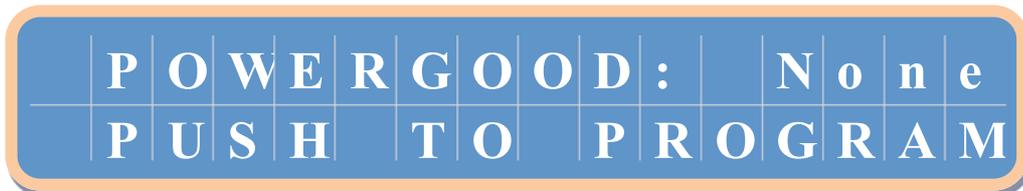
Turn encoder knob to select Normal Open or Normal Closed operation for Interlock. Move cursor to YES selection and press to confirm. New data is stored as usual.



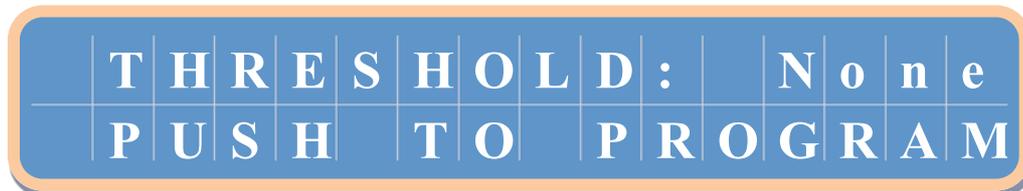
For Stand-Alone device INTERLOCK is setting on *Normal Open*

3) POWER GOOD

This value determines the minimum level for RF output power considered to be good. A value below this preset threshold causes the transmitter to fail. The slide below shows the “Power good” value currently stored



Push knob to program value and the following slide is



Turn the encoder knob to select and set value for power good. Move cursor to YES selection and press to confirm. New data is stored as usual

4) AUDIO GOOD

The following slide shows the “Audio good” value currently stored



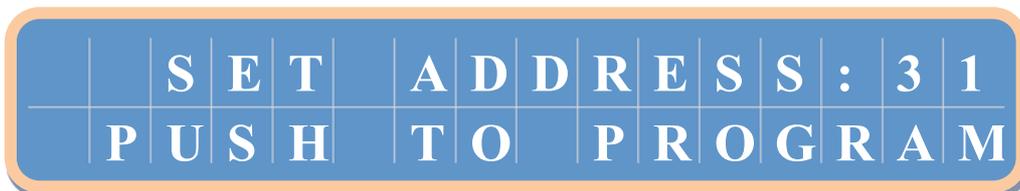
Push encoder knob to program required value and the slide appearing is the following



Turn encoder knob to select desired value of audio good. Move cursor to YES selection and press to confirm. New data is stored as usual

5) SET ADDRESS

The following slide shows the address assigned to equipment; address (00) is default address assigned by manufacturer. This function allows equipment to be identified and addressed when included in a Network because each Transmitter is identified by address assigned

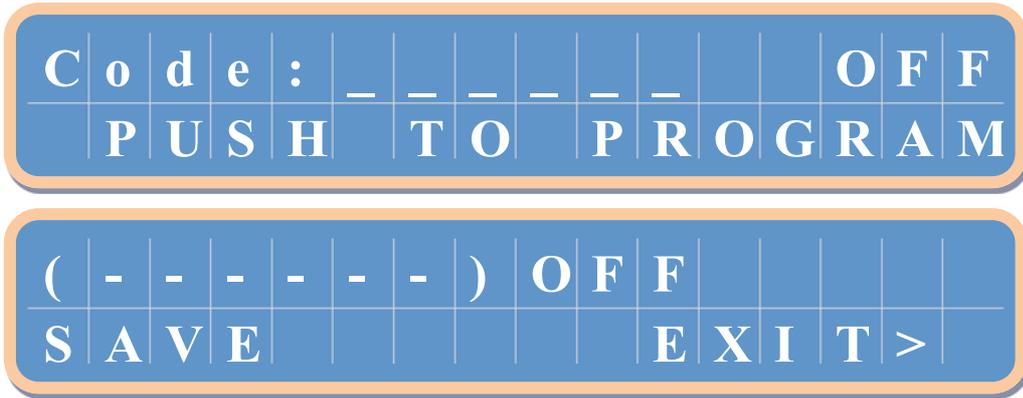


Push encoder knob to program a different address



Turn the encoder knob and a specific 2-digit address can be set and saved in memory. The usual confirmation and storing procedure. The correct address for stand-alone use is “00”. When the TCP/IP optional telemetry interface is mounted, the right address is “31”.

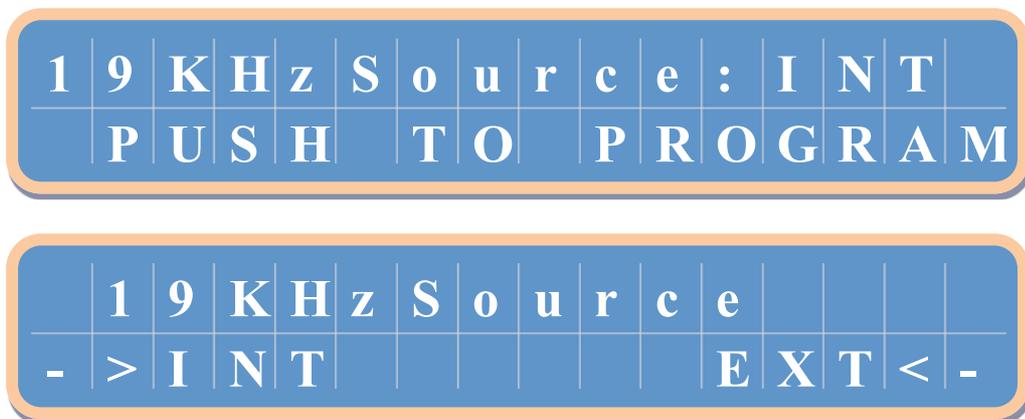
6) CODE Source



Type in the CODE. Then move the cursor to select and press to confirm

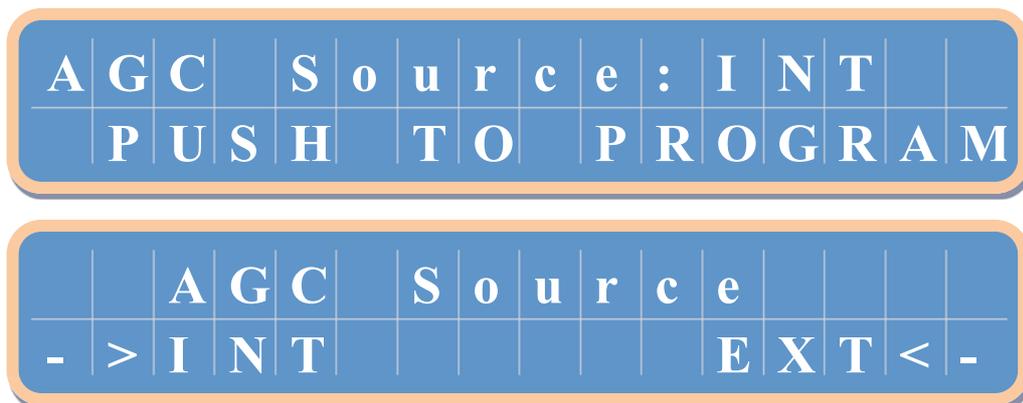
7) 19 KHz Source

The following slide shows 19KHz Source:

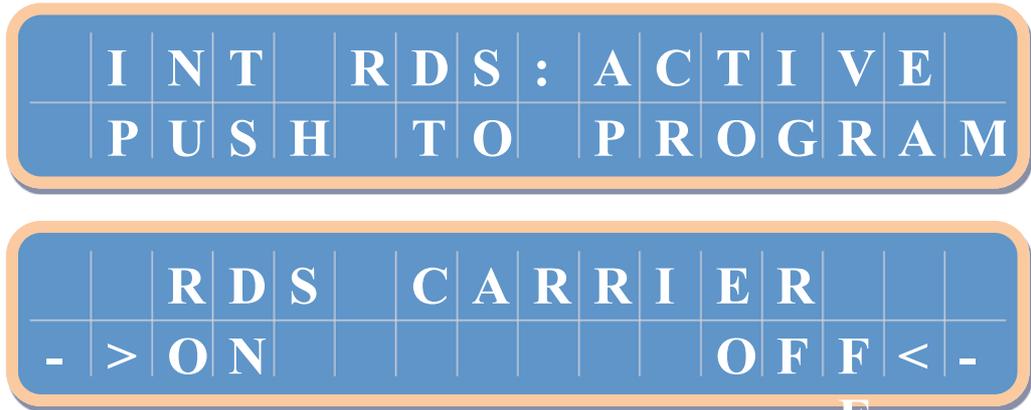


Move the cursor to select and press to confirm. New data is stored

8) AGC Source

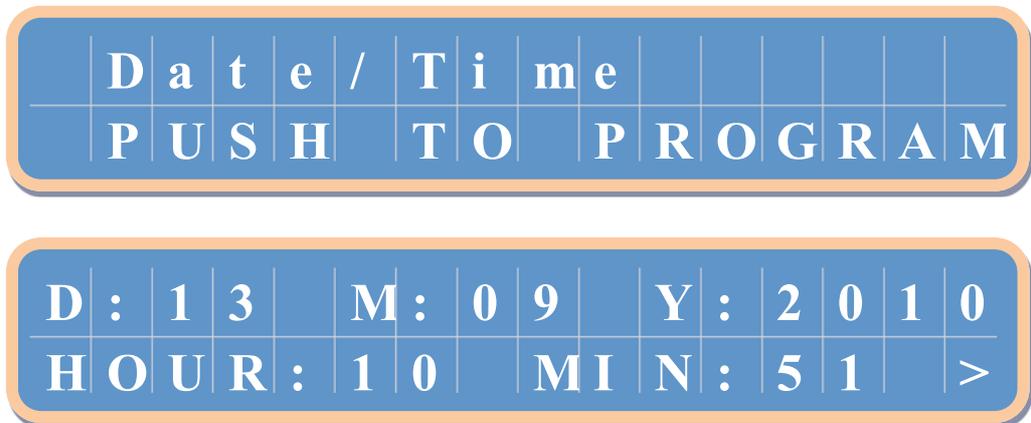


9) INT RDS (Optional)



Enable/disable the optional RDS internal encoder when is present.

10) DATE TIME



Move the cursor to ">" push encoder knob to program New data is stored

11) ALARM RESET



In this section you can reset the alarms that contribute to lock the device

11) ALARM RESET



When an alarm reset is made, the alarm events remain in the menu “LAST 20 EVENTS”

Digital AES/EBU (option)

The following slide shows



press encoder knob to select between the analog or optional digital (AES/EBU) audio input



Section **Six** ⑥

SPECIAL PROGRAM MODE OPERATIONS

Rf Power Reset

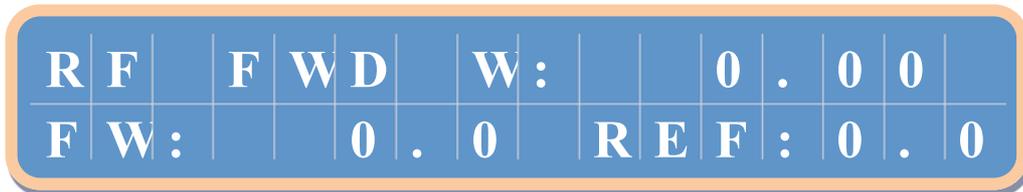


This special feature has been included **to give** transmitter the capability of starting from 0 power. If you wish to start from zero (0) power and there is no Dummy Load available follow the procedure below.

IMPORTANT NOTICE: procedure must be carried out using both hands to avoid the accidental mistaken power reset

- Switch OFF transmitter from rear panel
- Keep the front panel encoder continuously pressed
- Switch ON transmitter and keep encoder knob pressed simultaneously

Slide below appears



Set up required RF power output and push the encoder knob to confirm and store new data

TCP/IP Telemetry (option)

As option it is possible to add a remote telemetry system via TCP/IP.

An telemetry card is installed on the Jazz 2G exciter and, through an Ethernet port, it is possible to read the main parameters of the transmitter and make all main settings.



The WEB GUI works only if the transmitter is configured in REMOTE MODE (See manual) and the address is **31 decimal**.

For first, disable DHCP on your computer (See example with windows XP on fig1)

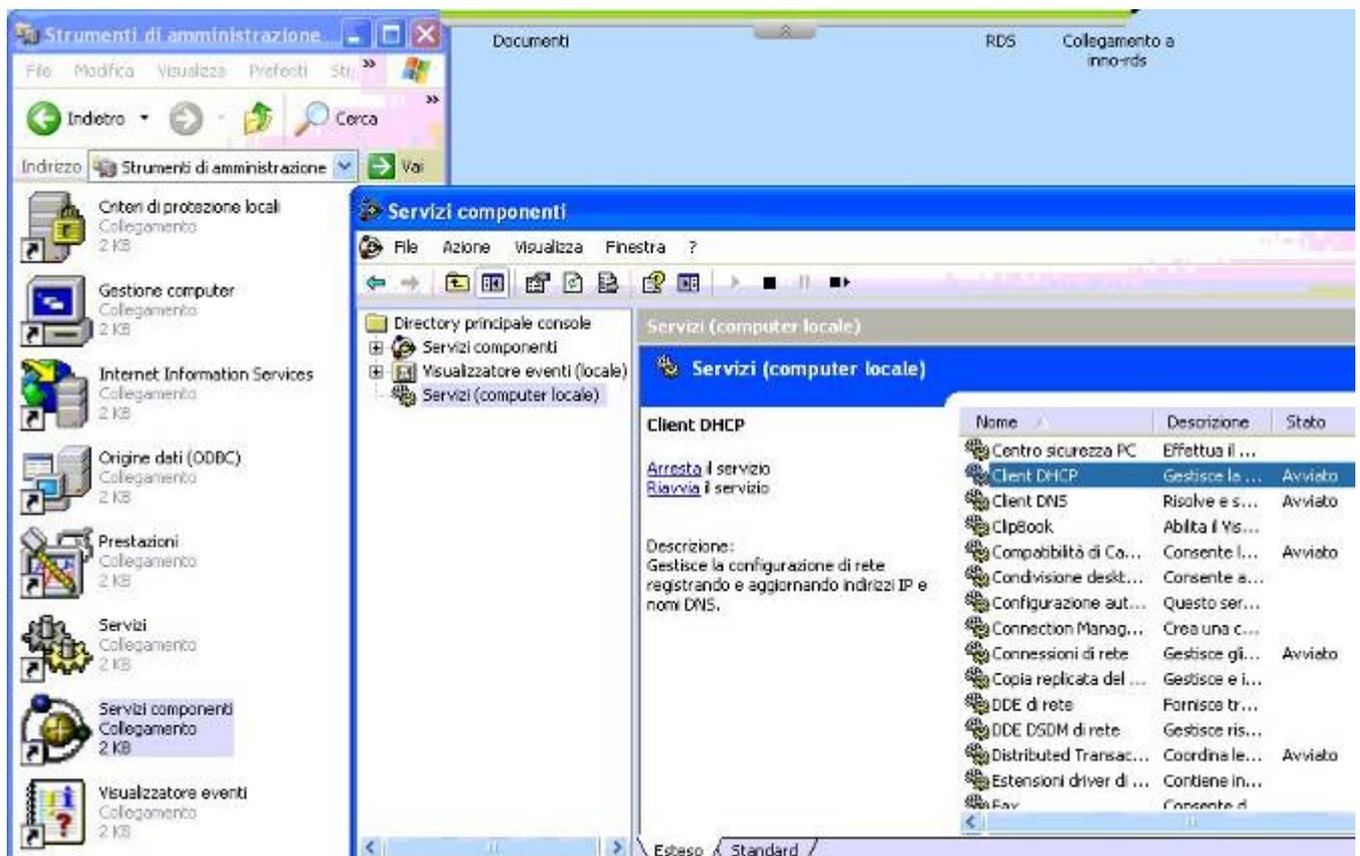


FIG. 1 – Disabling DHCP for Windows XP

Enter the default address from explorer (192.168.0.98).

The password for access in the WEB page is: **123456**

The security policy is guaranteed by a connection managed with a standard password demand (See Fig 2).



FIG. 2 – Authentication window

Then the web page shown in Fig 3.

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www.innovationsrl.com

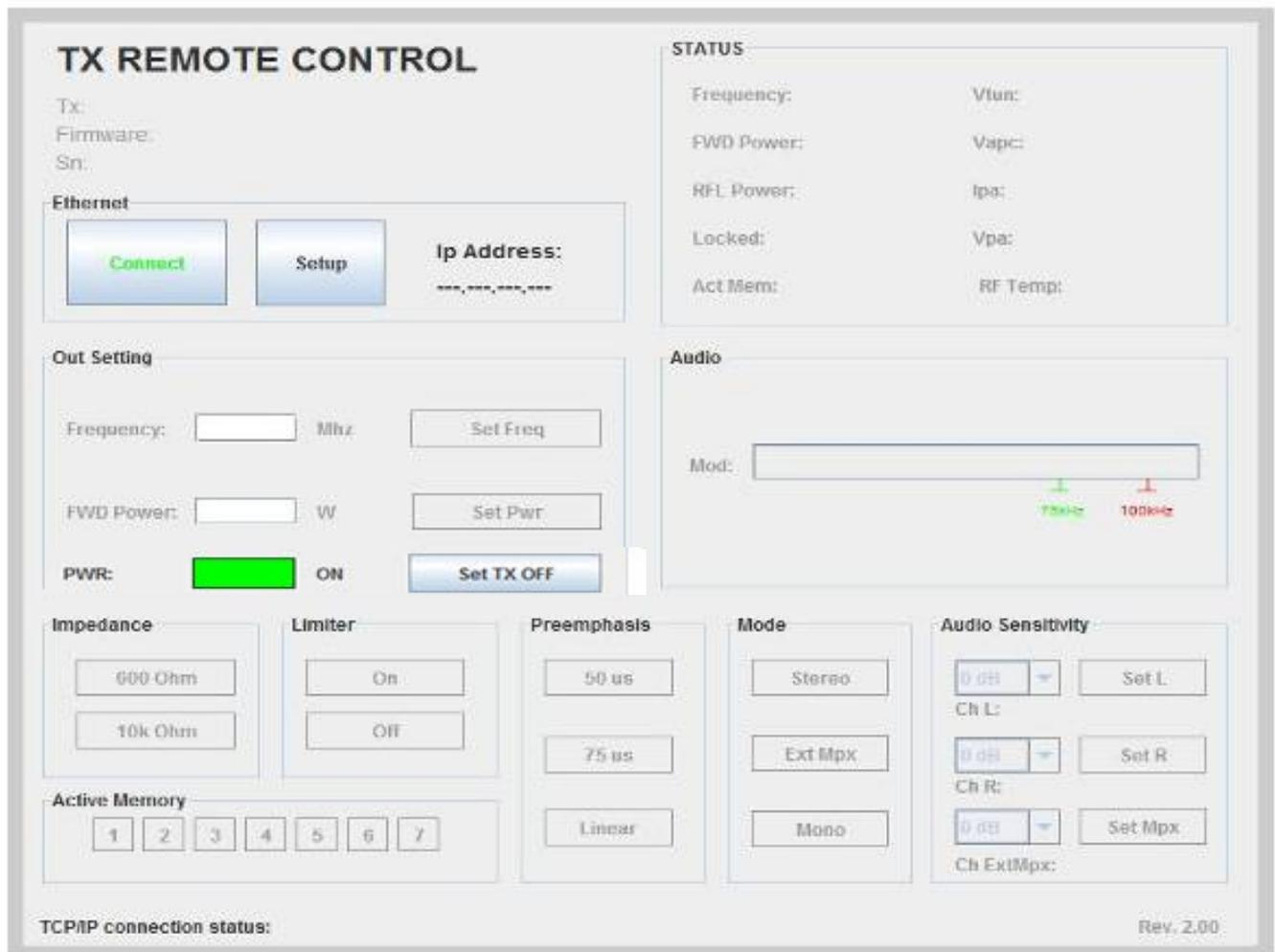


FIG. 3 – Main telemetry window before the connection

Selecting the key “Connect” is downloaded and shown all main readings and it is possible to make all main settings of the transmitter (See Fig. 4)

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www.innovationsrl.com

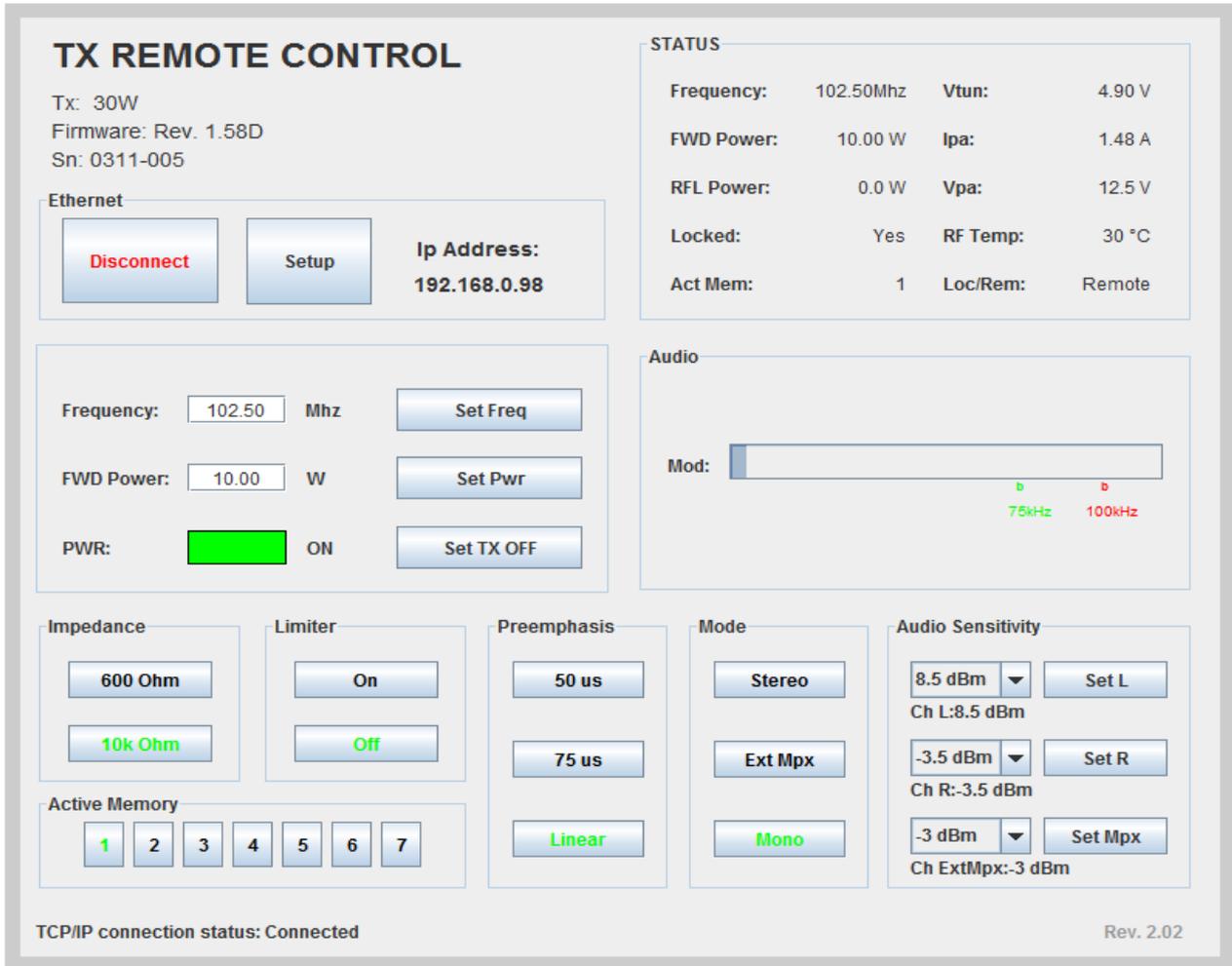


FIG. 4 – Main telemetry window after the connection

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TX REMOTE CONTROL

Tx: 100W
Firmware: Rev. 1.15B
Sn: 0816-053

Ethernet

Disconnect
Setup

Ip Address:
192.168.1.88

Out Setting

Frequency: Mhz Set Freq

FWD Power: W Set Pwr

Impedance

600 Ohm
10k Ohm

Limiter

On
Off

Preemphasis

50 us
75 us
Linear

Mode

Stereo
Ext Mpx
Mono

Audio Sensitivity

10 dB

Set L

Ch L: 10 dB

10 dB

Set R

Ch R: 10 dB

10 dB

Set Mpx

Ch ExtMpx: 10 dB

STATUS

Frequency:	97.00Mhz	Vtun:	4.40 V
FWD Power:	150 W	Vpwr:	1.35 V
R-L Power:	0.0 W	Ipa:	1.05 A
Locked:	Yes	Vpa:	21.7 V
Act Mem:	1	RF Temp:	45 °C

Audio

Mod:

70Hz
100Hz

ICMIP connection status: Connected

Rev. 2.00

Pushing the key “Setup”, it is possible to change the password and above all the IP address (See Fig. 5)



FIG. 5 – Set-up window

RDS Coder (option)

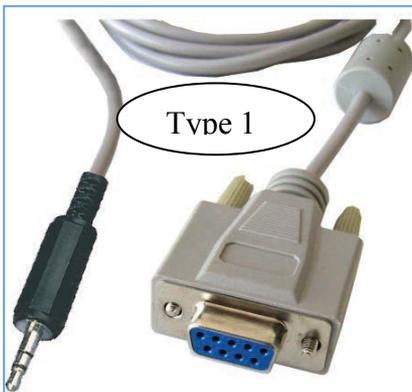


Rear view Jazz 2G



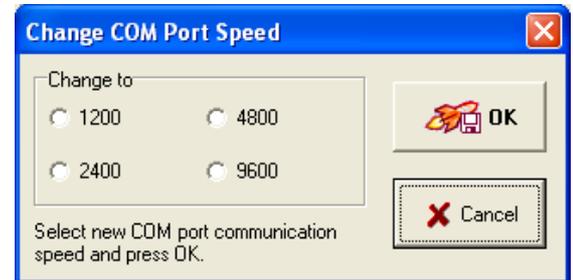
(15)-RDS In Program

The jack socket for connecting the RDS program is located at the rear of the transmitter

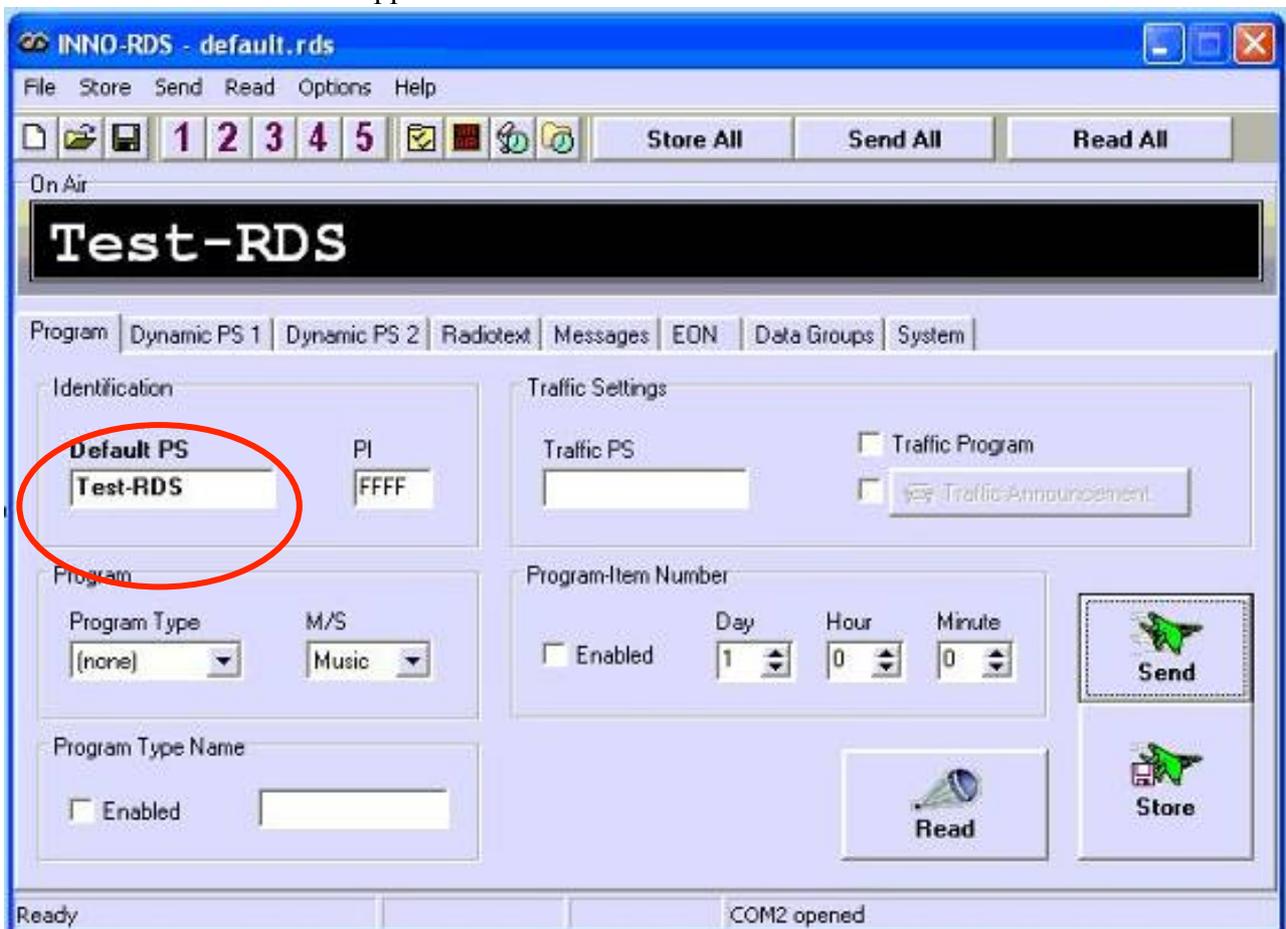


Operation sequency

- 1) To connect to pc use the serial cable. **Type 1** for Jazz and POP , **Type 2** for RDS-C
- 2) Copy "Application-InnoRDS" folder in your Pc
- 3) Set the connection parameter to the application program:
Select Menu' Options-> Change com port speed.
Ideal setting is 9600 Baud
- 3) Execute "inno-rds.exe"



This is the screen that appears

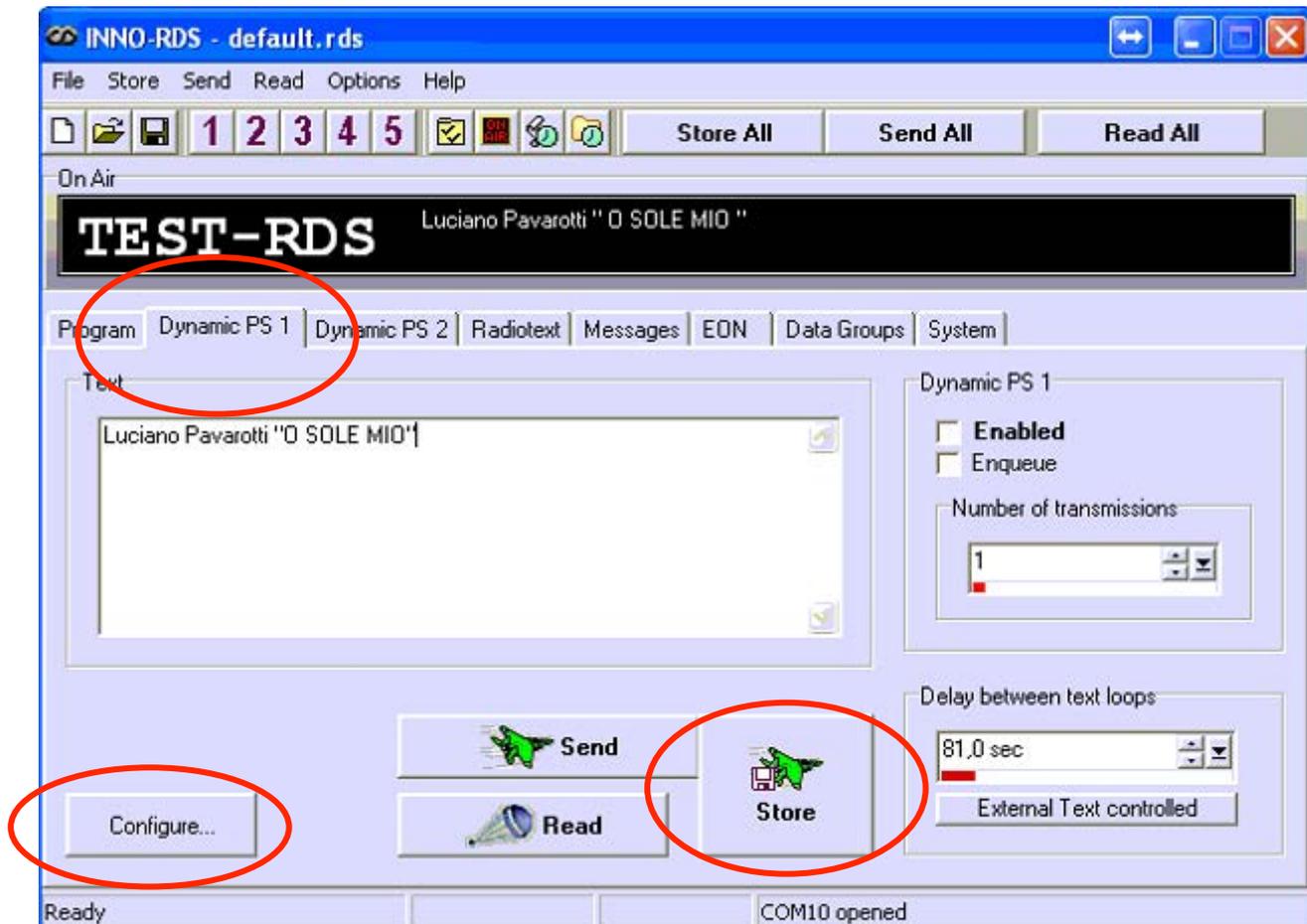
**Default PS**

Menu **Program:**

- 4) Write in **Default PS** text box, the desired text and select the button "Send"
- 5) Push the **Store** button to save in Eeprom your setting.

Dynamic PS

6 Menu **Dynamic PS**: To configure DYNAMIC PS and select the button "Send"

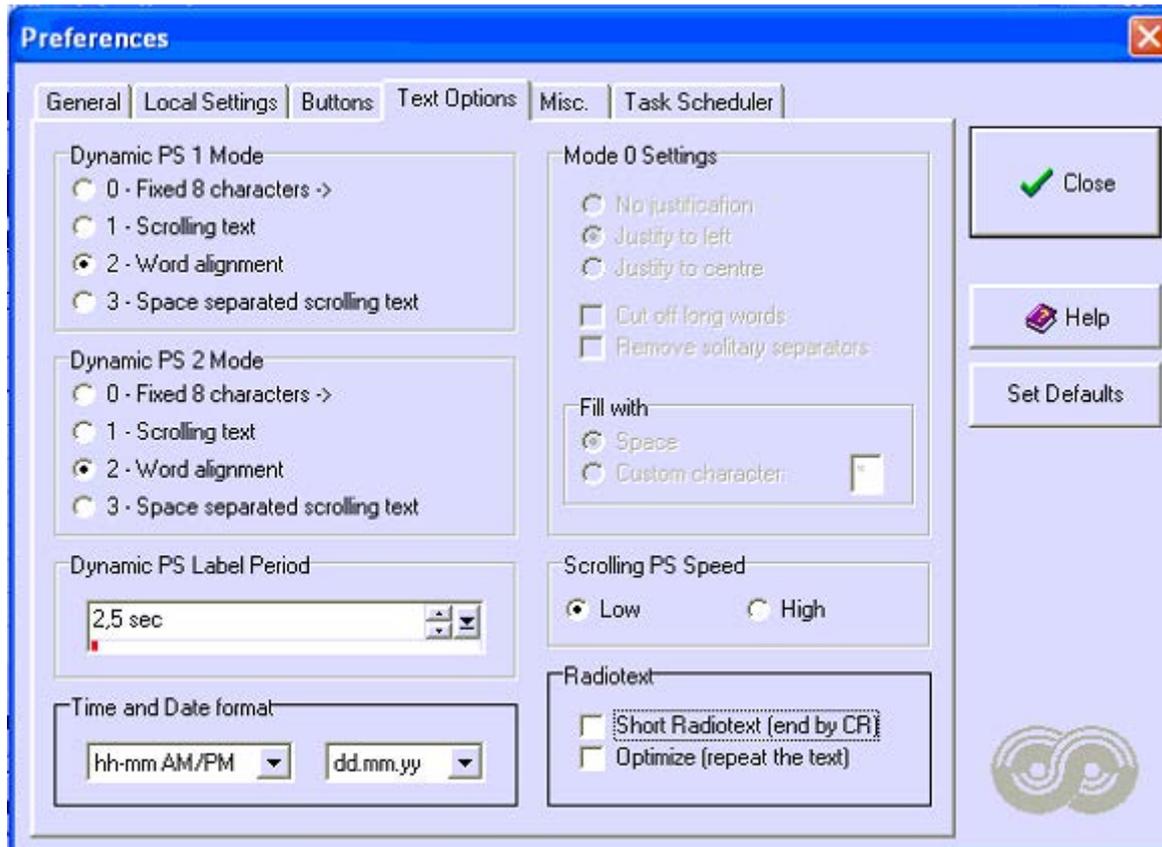


7) Push the **Store** button to save in Eeprom your setting.

If you choice use Dinamic PS, in Default PS don't write nothing otherwise the Dimanic PS don't work

8) Push **Configure** and choice the Dynamic PS 1 mode (FIXED OR SCROLLING OR WORD, ETC)

This is what appears



9) Push the **Store** button to save in Eprom your setting.

Blank

Section *Seven* 7

SERVICE & MAINTENANCE

Spare parts Jazz500 2G STF01850

N°item	Description	Code Spare part
1	AC/DC Power Supply 100-240Vac in 48V-21A Out with PFC	APA00010
2	VDE Filtered Power Entry Module single fuse and Switch	JAH00090
3	Audio Filter Module	STF01702
4	Stereo coder Module	STF01703
5	I/O Board	SDI02800
6	X-Port Lan Interface (Optional)	SDI02801
7	RDS Module (Optional)	SDZ00110
8	Audio Input	STF01701
9	PLL Module	STF01705
10	AES/EBU Digital Audio Interface (Optional)	SDI00710
11	500W RF POWER AMPLIFIER	SAF3400
12	3 x Axial DC FanFor PS Block - 40x40x28 - 12Vdc - 0,8A	3 x ZAD00030
13	VCO Module	SDV00310
14	Main Board	SDM01010
15	Logic & dispaly Board	SDI03610

Spare parts Jazz1000 STF

N°item	Description	Code Spare part
1	AC/DC Power Supply 100-240Vac in 48V-21A Out with PFC	APA00010
2	VDE Filtered Power Entry Module single fuse and Switch	JAH00090
3	Audio Filter Module	STF01702
4	Stereo coder Module	STF01703
5	I/O Board	SDI02800
6	X-Port Lan Interface (Optional)	SDI02801
7	RDS Module (Optional)	SDZ00110
8	Audio Input	STF01701
9	PLL Module	STF01705
10	AES/EBU Digital Audio Interface (Optional)	SDI00710
11	1000W RF POWER AMPLIFIER	SAF3400
12	3 x Axial DC FanFor PS Block - 40x40x28 - 12Vdc - 0,8A	3 x ZAD00030
13	VCO Module	SDV00310
14	Main Board	SDM01010
15	Logic & dispaly Board	SDI03610

The FM transmitter is built using the following parts which are replaceable units

Parts Overview Jazz500 2G STF01840

