

PTRL&RXRL LCD *FEATURES*

1. On the front panel , by means a user-friendly graphic interface, all the diagnostic and control parameters are displayed (frequency, output power, measurements, etc...).
2. Composed of few modules, easily replaceable, allowing the reallignment of equipment with almost total absence of adjustments.
3. Low cost with high performance.
4. SMD circuits for maximum reliability and minimum encumbrance with optimum signal routing.
5. Main parameters available also on terminal board for remote control.



Technical Specifications

Mechanical specifications PTRL&RXRL LCD

Panel size	483 mm (19") x 88 mm (3 1/2") (2 HE)
Depth	344 mm (26 1/2")
Weight	5.5 kg (RXRL) – 6 kg (PTRL)
Working Temperature	-10 °C ± 50 °C

Electrical specifications PTRL LCD

Generals

RF output power	0-10 W adjustable
RF output connector	"N" type
RF output impedance	50 Ohm
Frequency range	220 ± 240 MHz 420 ± 440 MHz 900 ± 960 MHz (Other frequencies bands are available on request, contact RVR to know the availability of the modules for the selected frequency)

Frequency setting	Direct, via software
Frequency stability	±1ppm from -10°C to 50°C
Modulation type	Direct carrier modulation
Harmonic and spurious suppression	Meets or exceeds FCC and CCIR rules (typical -75 dB)
Modulation capability	Meets or exceeds FCC and CCIR rules (typical 240kHz MPX or Mono, 210 KHz Stereo)
Residual async AM	-70 dB or less wrt 100% AM, no deemphasys
Residual sync AM	± 50 dB or less wrt 100% AM, 75 kHz FM modulation at 400Hz, no deemphasys
A.C. supply	± 80 V ± 260 V, full-range ± 60VA
C.C. supply	24 V – approx. 2A max (depends on the frequency band)

Inputs

Left-Mono/MPX input	XLR female type, balanced or unbalanced
Right/Mono input	XLR female type, balanced or unbalanced
MPX/SCA/RDS input	BNC type, unbalanced
Input impedance	10 Kohm or 600 Ohm, XLR Left/Right/Mono 10 Kohm or 50 Ohm BNC MPX, via DIP-switch selectable

Input level	-20 dBm ± +13 dBm, fine adjusting with trimmer
Preemphasys	Selectable: 0 50 us (CCIR) 75 us (FCC)

SCA1 and SCA2 inputs	2 connectors, BNC type, unbalanced
SCA1 and SCA2 inputs impedance	10 kOhm
SCA1 and SCA2 inputs level	-20 dBm ± +13 dBm for 2,0 kHz deviation, trimmer adjustable

Outputs

RF Out:	Standard connector "N" type with 50 Ohm impedance
Pilot tone 19 KHz (/S version)	1 Vpp minimum load 4.7 kOhm

MONO Operation

S/N FM (200 MHz)	> 80dB wrt 75KHz of deviation with 50/75 us deemphasys, RMS detector
S/N FM (400 MHz)	> 75dB wrt 75KHz of deviation with deemphasys 50/75 us, RMS detector
S/N FM (900 MHz)	> 73dB wrt 75KHz of deviation with 50/75 us deemphasys, RMS detector
Frequency/amplitude response	± 0.3 dB, 40 Hz ± 15 KHz
Total Harmonic Distortion (THD)	≤ 0.08%

MPX operation

Composite S/N FM (200 MHz)	> 80dB wrt 75KHz of deviation with 50/75us deemphasys, RMS detector
Composite S/N FM (400 MHz)	> 75dB wrt 75KHz of deviation with 50/75 us deemphasys, RMS detector
Composite S/N FM (900 MHz)	> 73dB wrt 75KHz di deviation with 50/75 us deemphasys, RMS detector
Frequency/amplitude response	± 0.2 dB, 40 Hz ± 53 KHz ± 0.5 dB, 53 KHz ± 100 KHz
Total Harmonic Distortion (THD)	≤ 0.1 %

Stereo operation

S/N FM (200 MHz)	> 73dB wrt 75KHz of deviation with 50/75 us deemphasys, RMS detector
S/N FM (400 MHz)	> 70dB wrt 75KHz of deviation with 50/75 us deemphasys, RMS detector
S/N FM (900 MHz)	> 67dB wrt 75KHz of deviation with 50/75 us deemphasys, RMS detector
Frequency/amplitude response	± 0.3 dB, 40 Hz ± 15 KHz
Total Harmonic Distortion (THD)	≤ 0.1 %

Remote connections

Interlock connector	BNC type, inhibits the power distribution when is carried to ground
Serial interface	RS232, DB9 female
Telemetry connector	DB15 female type, gives indications on the state of the machine

Electrical specifications PTRL LCD

Generals

RF input connector	Typo "N"
RF input impedance	50 Ohm
Frequency range	220 ± 240 MHz 420 ± 440 MHz 900 ± 960 MHz (Other frequencies bands are available on request, contact RVR to know the availability of the modules for the selected frequency)
Frequency setting	Direct, via software
Frequency stability	±1ppm from -10°C to 50°C
Intermediate frequencies	10,7 MHz
Static frequency	-20 dB @ 200 KHz -35 dB @ 300 KHz -55 dB @ 400 KHz
A.C. supply	± 85 V ± 264 V, full-range ~ 20VA
C.C. supply	24 V ~ 450 mA

Outputs

Mono/Right output	XLR male type, balanced or unbalanced
Mono/Left output	XLR male type, balanced or unbalanced
MPX Output	BNC type, unbalanced
Output impedance	~ 100 Ohm
Output level	-20 dBm ± +13 dBm, fine adjusting with trimmer
Deemphasys	Adjustable through Dip-Switch 50 or 75 us (To specify at the moment of the order)
SCA and MPX output	2 connector BNC type, unbalanced
SCA output level	-20 dBm ± +13 dBm for 2,0 kHz deviation trimmer adjustable
10.7 MHz IF OUT	BNC type connector

MONO operation (@ 100uV RF input)

S/N FM	> 68dB wrt 75KHz of deviation with 50/75 us deemphasys, RMS detector
Frequency/amplitude response	± 0.3 dB, 40 Hz ± 15 KHz
Total Harmonic Distortion (THD)	≤ 0.4%
Sensitivity	-80 dBm for 54 dB S/N measured in RMS 50/75 us deemphasys

MPX operation (@ 1mV RF input)

S/N FM composite	> 68 dB wrt 75KHz measured in the range of 40 Hz ± 75 KHz with 50/75 us deemphasys, RMS detector
Frequency/amplitude response	± 0.3 dB, 40 Hz ± 53 KHz ± 0.6 dB, 53K Hz ± 100 KHz
Total Harmonic Distortion (THD)	≤ 0.4 %

Stereo operation (with external stereophonic @ 1mV RF input)

S/N FM	> 62 dB wrt 75KHz of deviation 50/75 us, detector RMS
Audio Frequency/amplitude response	± 0.3 dB, 40 Hz ± 15 KHz
Total Harmonic Distortion (THD)	≤ 0.4 %
Sensitivity	-60 dBm for 54 dB S/N measured in RMS on each decoded channel, 50/75us deemphasys
Stereophonic separation	> 50 dB @ 1 kHz, > 40 dB 50 Hz – 15 kHz
Crosstalk M/S & S/M	> 45 dB @ 1 KHz ± 35 dB 50 Hz – 15 KHz

Remote connections

Mute connector	BNC type, inhibits the audio ouput when is carried to ground
Serial interface	RS232, DB9 female
Telemetry connector	DB15 female type, gives indications on the state of the machine

Electrical specifications PTRL + RXRL LCD

The same RXRL specification are worth with the following differences

Mono operation

S/N FM	> 65dB wrt 75KHz measured in the range of 40 Hz ± 15KHz with 50/75 us deemphasys, RMS detector
Total Harmonic Distortion (THD)	≤ 0.4%

MPX operation

Total Harmonic Distortion (THD)	≤ 0.5%
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Stereo operation

S/N FM	> 60dB wrt 75KHz measured in the range of 40 Hz ± 15KHz with 50/75 us deemphasys, RMS detector
Total Harmonic Distortion (THD)	≤ 0.5%