



FEATURES

- Analysis Demodulator
- Lin, Log, FM Video
- Integral Predetection Converter
- IEEE-488 Control

DESCRIPTION

The Model 676 IF Processor is a multifunction analysis demodulator which provides multiple processed outputs of incoming signal intelligence and operates under IEEE-488 or front panel control. The IF Processor accepts a 160 MHz signal (other input frequencies are optional) and allows for selection of one of four bandpass filters prior to splitting the signal into independent log and linear channels. The linear channel's IF is further processed to provide an FM discriminated output, a LIN IF output, and down-converted outputs for both narrowband and wideband tape recording. Video and 'box-car' outputs from both the log and linear channels are also available.

Design Features

The IF input to the Model 676 is first split into two paths, one providing an attenuated replica output of the input, and the other being the main processing path. After being filtered by one of four selectable IF filters, the signal is split into four processing paths. The first provides detected Log Video, the second detected Linear Video, the third FM Video, and the fourth down-converted signals at IF's of 21.4, 3.225, 1.075, 0 MHz, as well as a linearly amplified replica of the input IF.

In addition to the three basic video outputs, "Sample & Hold" and pulse-stretched audio outputs are provided.

The Processor contains dual IF-to-Tape (Predetection) Converters (RII Model 385) to provide outputs suitable for both narrowband and wideband tape recorder inputs. In addition, an intermediate IF at 21.4 MHz is also provided as well as a "Zero" IF output.

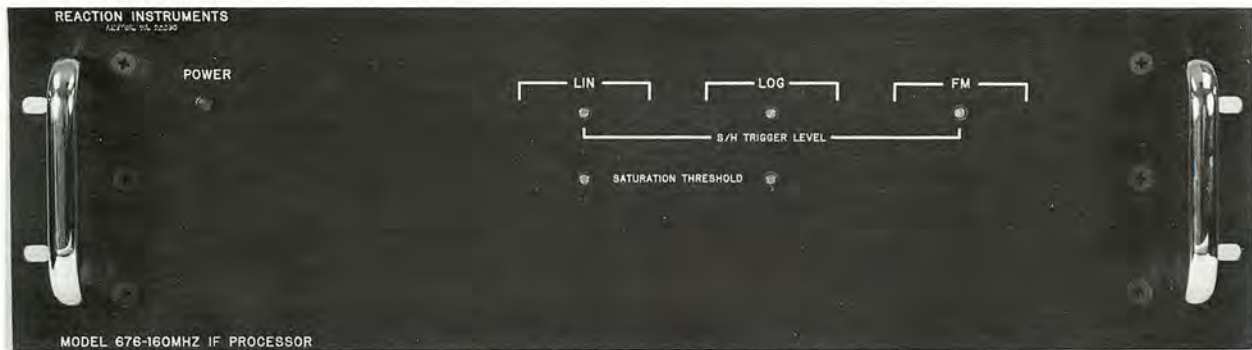
Under IEEE-488 control, the unit functions as a listener/talker and both bandwidth and linear channel attenuation may be selected. Either the computer or the front panel may be locked out if operationally desired.

Power to the Remote Unit is automatically applied when the Control Unit power is switched on.

Physical Characteristics

The IF processor is composed of two units. The Control Unit is rack mounted in a 3-1/2 inches high half-rack chassis and provides all operator controls and displays. The Control Unit contains a microprocessor board, an IEEE-488 control board and a power supply. Address selection for the unit is by means of a rear panel switch.

The Remote Unit is the functional electronic package and is packaged in a 5-1/4 inches high EIA standard rack mount chassis which may be located up to 20 feet from the control unit. The Remote Unit has no front panel controls requiring operator access. The unit is highly modular, permitting change of filters, amplifiers, or detectors for different applications.



Model 676 IF Processor, Remote Unit

SPECIFICATIONS

IF Input

Center Frequency	160 MHz - Standard 400 MHz - Optional
Impedance	50 ohms
Vswr	1.5:1
IF Filter BW	5, 10, 25, 50 MHz

Control Input

Functions	IEEE-488/78
Controlled	Bandwidth, attenuation

Outputs

General

Impedance	50 ohms
Vswr	1.5:1
Amplified IF	Dual parallel outputs
Gain	40 dB
Rise Time	30 nanoseconds
Dynamic Range	25 dB
Attenuation	0 to 70 dB in 1 dB steps
Input Monitor	-3.5 dB

FM Video

Discriminator	Delay line
Level	± 1 V
Rise/Fall Time	50 nanoseconds
Linearity	5%
BW	50 MHz

Log Video

Level	≥ 1 Vrms
Rise/Fall Time	30 nanoseconds
Dynamic Range	70 dB
BW	40 MHz

Linear Video

Level	≥ 1 Vrms
Rise/Fall Time	30 nanoseconds
Dynamic Range	25 dB
BW	40 MHz

Sample & Hold Video	Derived from Lin and Log, and FM Video (Simultaneously)
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Trigger

Droop	50 microvolts/microsecond
Dump	30 milliseconds
Minimum Pulse Width	100 nanoseconds

Audio

Level	From Lin or Log, or FM Video 1 Vrms
Impedance	600 ohms
Output	Control Unit Front Panel: Select switch & headphone jack

Control Unit:

Controls -

Front Panel

Bandwidth	5, 10, 25, 50 MHz
Attenuation	"Tens" & "Ones" digits
Audio	
Select	Log, Lin, FM
Gain	
AC Power	Simultaneously switches on AC of remote unit

Rear Panel

IEEE-488 Address Switch

Indicators

Bandwidth	LED: Integral with select switch
Attenuation	2 digit 7 segment LED's
Saturation	Red LED's - Log and Lin
Remote Control	Red LED

Connectors

Front Panel	Audio Jack
Rear Panel	
Control	IEEE-488
Signal (to remote unit)	25 Pin Type "D"
Power	Corcom 6J1 with fuse

Power

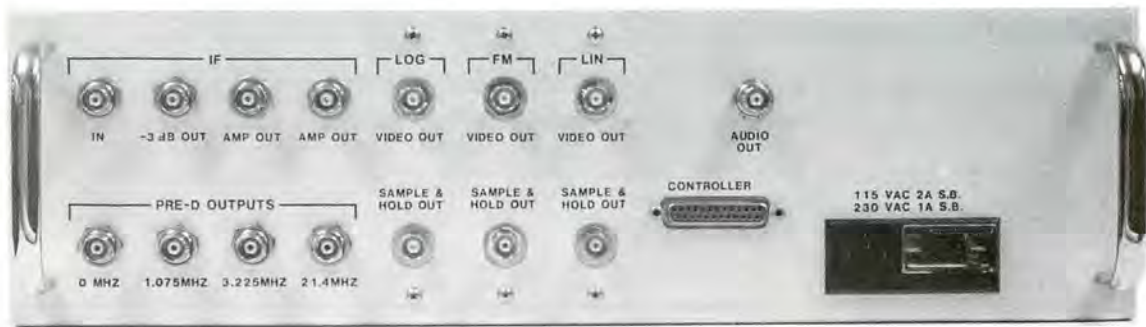
115/230 VAC, 47-63 Hz, 25 W

Temperature - Operating

$25 \pm 5^\circ$ C

Style

3-1/2 inches high; 14 inches deep: half-rack configuration. Rack adapter available.



IF Processor (Rear View)

SPECIFICATIONS (Continued)

Remote Unit:

Controls - Front Panel Recessed screwdriver adjust

S/H Trigger Level Log

Saturation Log, Lin

Threshold

Connectors - Rear

Panel BNC

IF Input, -3 dB out, Amp. out (2)

Log Video, Sample & Hold

Lin Video, Sample & Hold

FM Video, Sample & hold

Pre-D 0, 1.075, 3.225, 21.4 MHz

Audio

Controller

25 Pin Type "D"

Power

Corcom 6J1 with fuse

Indicator

AC Power (LED)

Power

115/230 Vac, 47-63 Hz, 100 W

Temperature -

$25 \pm 5^\circ\text{C}$

Operating

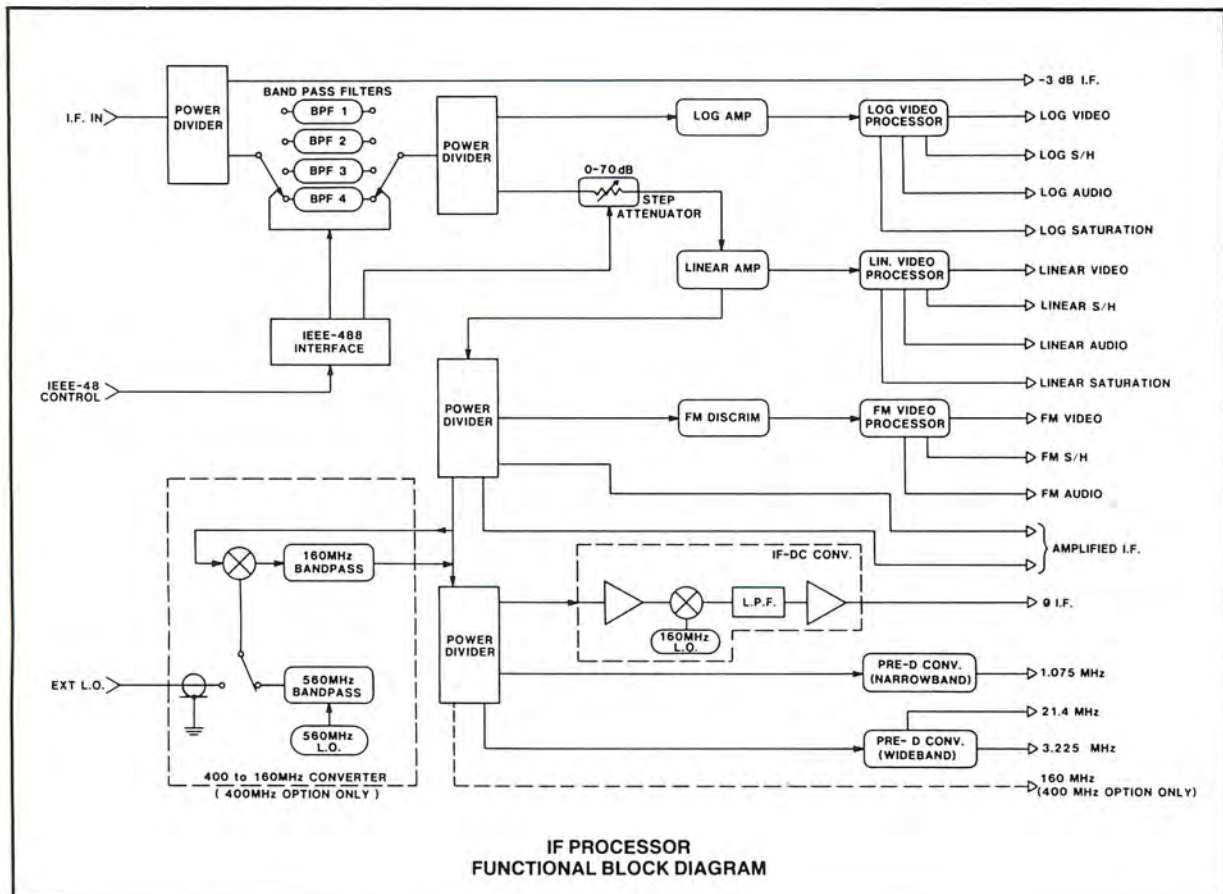
Style

EIA standard rack-mount chassis, 5-1/4 inches high by 20 inches deep

Weight

35 lbs., nominal

Specifications are subject to change without notice.



ORDERING INFORMATION

The standard Model 676 IF Processor provides a 160 MHz IF input center frequency in addition to features described in this data sheet. A 400 MHz IF input is available as an option. When ordering, please specify:

676	IF Processor
Option C08	400 MHz IF Input Center Frequency

WARRANTY

All of Reaction Instruments' equipment is warranted for one year, except for damage caused by accident or misuse, provided the equipment is returned for repair to the plant in Herndon, VA.

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